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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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MAGNETS FOR LIFTING PURPOSES.

The ingenious scheme which has been talked of for raising the ill-fated Victoria, of the British navy, which now lies at the bottom of the Mediterranean in 450 feet of water, off the harbor of Tripoli, has called attention to the possibilities in the employment of powerful magnets for raising iron and steel vessels sunk in deep water—too deep to admit of the use of divers. The weight of this wreck in water is estimated at 7,000 tons. It is suggested that powerful hydraulic rams and dynamo machines and a series of heavy electro-magnets be arranged on pontoons at the scene of the wreck. A magnet lowered over the side and coming within reasonable distance of the sunken vessel would be drawn toward it, and would stick with a power of 100 tons to any part of its iron or steel with which it came into contact. As each magnet made attachment, which would be indicated by means of an electric dial on the pontoon, a trial pull would be given to the rope to ascertain whether a connection has been made to a firm part of the wreck. Were this test not satisfactory, the magnet would come off, and its position would be changed until a firm grip had been made. When all the magnets had been fixed the wreck would be ready for raising. Each lifting rope would be attached to the lifting pontoon by means of a sheave on the head of a hydraulic lifting ram with a 12-foot stroke, which would give an effective lift of 24 feet. Each hydraulic cylinder on the pontoon would be in connection with all the others, and a balancing accumulator would prevent any rope getting more than a normal strain of 100 tons. When the rams had made their full stroke, the lifting ropes would all be simultaneously held in position. The rams would then be lowered and another lift of 24 feet given to the wreck, which, as it reached the surface, would be towed to shallower water, and there beached.

A NEW PACIFIC COAST LINE.

A fast steamship line is projected between the cities of Valparaiso and San Francisco. The Campania Sud Americana de Vapores, a line flying the Chilean flag, but owned principally by English capitalists, and now doing business between Valparaiso and Panama, has submitted a proposition to the Pacific Steam Navigation Co., an English company competing in the same waters, to conjointly extend the service of their lines to San Francisco.

TO IMPROVE BENTON HARBOR.

In pursuance to a request from Congress, the Secretary of War has transmitted the report of Capt. Townsend, of the Corps of Engineers, U.S.A., upon the necessity for improvements at St. Joseph and Benton Harbor, Mich. The engineer recommends that the entrance to the harbor, and space 150 feet wide along the city front of St. Joseph, and the turning basin at the mouth of the St. Joseph river, be dredged to a depth of 15 feet. Capt. Townsend estimates the cost of the work to be \$380,000, and \$10,000 the amount necessary annually for its maintenance.

PANAMA CANAL.

The new company which was organized in 1894 to commence work on the Panama canal has employed, since that time, on an average, about 3,000 laborers. The new organization is composed mostly of Frenchmen, as was the old one. A committee will investigate the progress of the work at some time during the next twelve months, and if it makes a favorable report it is expected that the means will be secured for pushing the work more rapidly. The canal is now practically finished from Colon, on the Atlantic, to Bujeo, a distance of 14 miles. The total length of the canal from Colon to Panama on the Pacific will be 54 miles. The width of the canal will be 100 feet on the top and 72 feet on the bottom, except through the Culebra cut, where it will be 78 feet on the top and 29 feet on the bottom. Work was first begun on the canal in 1882 and continued until 1889.

THE LIGHT-HOUSE SERVICE.

The annual report of the U. S. Light-House Board, just issued, shows that at the close of the year there were under the control of the Light-House Establishment the following named aids to navigation:

Light-houses and beacon lights	1,116
Light-vessels in position	42
Light-vessels for relief	5
Electric lighted buoys in position	11
Gas lighted buoys in position	30
Fog signals operated by steam, caloric or oil engines	149
Fog signals operated by clockwork	205
Post lights	1,779
Day or unlighted beacons	424
Whistling buoys in position	71
Bell buoys in position	112
Other buoys in position	4,710

The report is as usual replete with maps, etc., and while it shows the painstaking care that characterizes this department, it is a handy volume for any mariner to possess for reference.

THE GUNBOAT ALGONQUIN.

A special from Washington, says: The new revenue cutter Algonquin, now being completed at Cleveland, will be stationed at Detroit, to replace the Fessenden, which will be sold. In general dimensions the new vessel is of the same size as the fast cutter Gresham, stationed at Milwaukee, with the exception that the Algonquin will be fifty-six tons smaller than the Gresham. The power of the Algonquin will be greater than the Gresham's, as the boilers are slightly larger. The Gresham has a record of eighteen and a quarter knots an hour and it is expected by Capt. Collins, engineer-

in-chief of the revenue cutter service, who designed the new cutter, that the Algonquin will attain a speed of a little more than twenty-one knots an hour, which will make her, with possibly two exceptions, the fastest steamer on the Great Lakes. The Algonquin and her sister ship, the Onondaga, are each 250 feet, six inches long over all, 32 feet beam, 17 feet depth, and will have a mean draft of 10 feet, 2¼ inches. Externally they will be handsomer vessels than the Gresham, as there will be no deckhouses, top-gallant forecastle and poop decks taking their places. The Algonquin will resemble a gunboat of the navy, and will carry torpedo tubes, etc., so constructed that she will be available with little change in case of war. The equipment throughout will include everything for a first-class vessel in every detail.

GERMANY'S NAVY AS AN AID TO COMMERCE.

For several years great pressure has been brought to bear on the Reichstag, the legislative body of the German Empire, looking to the expenditure of large sums of money for increasing Germany's naval strength. The most important reasons advanced by the advocates of vast naval increase are based upon the necessity of protecting Germany's foreign commerce and the interests of German merchants and traders settled in foreign countries.

That Germany's commerce has greatly increased within the last few years will be seen from the following figures: In 1881, Germany's foreign trade amounted to 6,337,000,000 marks (\$1,508,206,000); in 1895 it amounted to 7,448,000,000 marks (\$1,772,624,000). It may be claimed that this increase is due to the general increase in the world's commerce, but this does not seem to be the case, for in the time from 1881 to 1895, during which Germany's commerce increased by about \$246,418,000, England's commerce decreased by about \$190,400,000; that of France decreased by about \$142,800,000, and that of Russia by about \$71,400,000. During the period from 1881 to 1893, Germany's commerce with the United States increased from \$83,300,000 to \$190,400,000; with Brazil, it increased from \$3,570,000 to \$44,506,000; with Argentine Republic, from \$8,806,000 to \$36,414,000; with Chili, from \$2,142,000 to \$25,000,000; and with British India, from \$5,117,000 to \$53,800,000.

EARLY OPENING OF NAVIGATION.

The Superior Leader is encouraged to believe that navigation will open this season much in advance of the ordinary time. Its reasons for this belief are that the winter has been mild in temperature and the ice in the northern waters is not so heavy as usual. The spells of extreme cold weather in the Lake Superior region have been brief. Much of the time since January 1 has been characteristic of an open winter. Then the lakes were slow to freeze over at the close of last season. It seems likely, unless we have weather that is colder than usual in the latter part of our winters, that the winds of March will make a strong impression upon the great ice fields.

Should this prove to be a proper forecast, our contemporary concludes, the season of 1898 on the Great Lakes will be a long, as well as a busy one, and freight rates will be moderate. This will mean an accelerated ratio in the increase of that colossal water traffic which has no parallel in the internal commerce of nations.

THE enquiry which the British Board of Trade has resolved to institute into the trade and commerce of South America will be entered upon this month, and the commissioner chosen for the important mission has arranged to leave England this week. He will go first to Chili, and afterwards make a complete tour of the Southern States, personally investigating the condition of all the staple industries with a view to extended trade with Great Britain.

NEWS AROUND THE LAKES.

BUFFALO.

Special Correspondence to the Marine Record.

The steamer Charles A. Eddy has loaded a cargo of wheat and corn at Manitowoc.

Capt. James H. Green, of Buffalo, is inspecting vessels at Chicago for the Inland Lloyds' organization.

Buffalo's grain receipts for 1897 exceeded by almost 33,000,000 bushels the receipts of any previous year, the aggregate amount being 204,963,192 bushels, against 172,062,803 in 1896. The receipts for 1897 included 56,564,515 bushels of wheat, 56,930,569 of corn, 64,144,568 of oats, 14,547,344 of barley, 7,212,683 of rye and 5,563,513 of flaxseed. The receipts for 1896 included 54,159,183 bushels of wheat, 47,745,780 of corn, 39,973,512 of oats, 16,787,290 of barley, 4,461,807 of rye and 8,932,231 of flaxseed. During the ten years, 1888 to 1897, the receipts included 510,078,511 bushels of wheat, 401,553,800 of corn, 227,632,021 of oats, 73,165,863 of barley, 24,313,927 of rye and 40,912,374 of flaxseed.

Buffalo has a few bridge enterprises just now. A new one has been ordered for the Blackwell canal at Michigan street, and there is a disposition to build one across Black Rock harbor at Ferry street. This will also have to be a lift bridge, as the harbor is used for light barges from Tonawanda when it is rough or otherwise unfavorable on the Niagara. The congressional naval committee that came here to obtain points on the dispute over the proposed bridge to Grand Island remained entirely noncommittal, and nothing will be known of its impressions till a report is made. Any structure that is likely to impede navigation, either now or in the future, is not likely to meet the approval of the War Department, under whose authority the conservancy and improvement of rivers and harbors are placed.

The Merchants' Exchange trustees have made another move by cutting down the official weighmaster's fees on grain cargoes from 15 to 12 cents per 1,000 bushels. The rate used to be considerably more than this, but the encroachments of outsiders obliged a reduction of the rate, and now the official weighmaster recommends another reduction, which has been adopted. The outside firm of Goodale & Co., which is practically the only competitor of the official tallyman, weighed over 70,000,000 bushels of grain last season and cut a big hole in the business in spite of the enormous receipts. Whether this lopping off of a fifth of the rate will bring back the lost business remains to be seen. At the receipts of last season it means \$6,000 less to some one and a certain gain to the traffic of that amount at the least, for the outside firm will have to come down, too, in order to hold its business.

With confidence in increasing business, both freight and passenger, the lake transportation companies are making active preparations to meet the demand. "We hope," said William C. Farrington, vice-president of the Northern Steamship Co., "to build new boats in future as the demand shows itself, but not this season. We shall, however, build new steel decks on all of our freight boats at once, and otherwise put them in the best of condition for a heavy season's work." The repairs on these boats will all be made in Buffalo. The freight boats of the line consist of the Northern Light, North Star, Northern King, Northern Queen, North Wind and Northern Wave. Two passenger boats, the North West and North Land, are to be extensively overhauled, the buffet of each enlarged and a grill room finished off. All the company's steamers, with the exception of the Northern Queen, which is wintering at Duluth, are moored at Buffalo. A survey of the boats is to be made at once and when completed the work of repair will be begun immediately. Until the survey is made the exact amount of change deemed necessary cannot be determined.

Work commenced this week on the steel steamers of the Northern line fleet and there will be few changes in officers from last season. The wooden decks are to be stripped off and replaced with steel ones, also some extra strengthening for carrying deck cargoes. An additional change will be the construction on deck of large coal bins. These will be filled with fuel for use in the trip up the lakes, while the regular side coal bunkers will be given up to the storage of package freight. On reaching Duluth the regular bunkers will be used for coal, and the deck space occupied by a deck-load of singles or other coarse freight. By this plan the deck capacity will be increased. Mr. James Brodie, marine superintendent of the line, says: "We gave up the idea of lengthening our boats. We found that the expense would more than offset any increase in freight which might be provided for by the change, and the project was abandoned as unprofitable."

Admiralty lawyers are settling cases out of court as much as possible. The case of Miner, an oiler, who sued the owner of the steamer Tom Adams for \$10,000 for getting scalded, has been settled for a small amount. The suit brought by the Yale Transportation Co. against the Export Elevator Co. for demurrage, in which the oat cargo of the steamer Yale was libeled, has lately been settled. It is to be regretted that the somewhat celebrated Francomb case went the same way. A ruling should have been secured by taking it through the court. The Francomb went ashore with coal and jettisoned some of it to get off, delivering the rest in a damaged condition. A dispute then arose between the insurers of the hull and the cargo, one claiming that the jettisoned coal should be adjusted at the price of the part that was delivered and the other maintaining that the full

price was the correct figure. The point remains undetermined. In several lumber demurrage cases at Tonawanda settlements were made, the dock paying something for the delay. The three-cornered case of the schooner Fitzpatrick, which got mixed up in a squall with the floating elevator Cyclone and a canalboat, in which the elevator and the canalboat were both injured, comes off in the United States court at Utica next month.

When the enlarged dry dock is completed work will be pushed rapidly by the Union Dry Dock Co. The S. S. Curry will be docked for bottom repairs, and other large steamers will follow. \$20,000 is to be spent on the Lackawanna line steamer Russia in giving her new upper works and a thorough overhauling. The large steel tug now building for the Maythams is plated. The boilers have been tested to a hydrostatic pressure of 500 pounds to the square inch. Supt. Gaskin will go to the works of the Roberts Safety Water Tube Boiler Co., at Red Bank, N. J., next week, for the purpose of seeing the boiler tested with steam.

CHICAGO.

Special Correspondence to The Marine Record.

There is very little, if anything, doing here in the way of grain charters.

At the Chicago Ship Building Co.'s shipyard the Lehigh Valley Line steamer Tuscarora is in dock for repairs.

John Mohr & Son are doing work on the boiler of the steamer G. G. Hadley, comprising all new tubes and new furnace flues.

The main deck and deck beams of the steamer G. G. Hadley have been taken out and steel beams, without deck, are being placed in her.

Chief engineer Al. Edgar, of the Anchor Line, is superintending repairs to the machinery and boilers of the Anchor Line steamers in winter quarters here.

The O. S. Richardson Fueling Co.'s tug A. B. Ward is on the Independent Tug Line's floating dry dock receiving general repairs, new stem and stern plates and some calking.

Capt. James O. Wood, of Chicago, has been appointed master of the steamer G. G. Hadley, vice Capt. Dan Mallory, resigned, who has been appointed master of the steamer George N. Orr.

Chief engineer James Brooks, of the Western Transit Co.'s steamer Commodore, is here superintending repairs to the machinery and boilers on the company's steamers in winter quarters at this port.

The Dunham Towing and Wrecking Co. towed the steamer Wm. Chisholm to the Chicago Dock Co.'s elevator, where a portion of her cargo of corn is being elevated in consequence of its having become wet and heated.

Chicago Harbor, No. 33, American Association of Masters and Pilots gave a card party and banquet at the Hotel Le Grand, Tuesday evening, February 22d. There was a large attendance of the members and their friends and a very enjoyable evening was the result.

Capt. John Prindiville, chartered the steamer Chas. A. Street and consorts J. B. Lozen and Godfrey, for corn from Milwaukee to Kingston, at four cents for winter storage and delivery; the barge E. P. Dobbins for corn, Milwaukee to Port Huron, at two cents for winter storage and delivery.

At Miller Bros.' shipyard the steamer Aurora is in dock receiving a new shoe supplied by Donaldson Bros., ship-smiths. The steamer Kalkaska is at the derrick having a new high pressure cylinder put on board. The cylinder was shipped here by the Globe Iron Works Co., Cleveland.

The Independent Tug Line tugs Rita McDonald and Welcome towed the Lehigh Valley Line steamer Tuscarora to the Chicago Ship Building Co.'s dry dock at South Chicago, on Tuesday, the steamer St. Lawrence to the Danville elevator, the steamer J. H. Prentice to the Wabash and Armour C elevator, and the schooner Halsted to the Indiana elevator to load grain.

The stocks of grain in Chicago elevators on last Saturday evening were 10,897,000 bushels of wheat, 22,743,000 bushels of corn, 1,603,000 bushels of oats, 927,000 bushels of rye, and 738,000 bushels of barley. Total, 36,908,000 bushels of all kinds of grain, against 26,856,000 bushels a year ago. For the same date the Secretary of the Chicago Board of Trade states the visible supply of grain in the United States and Canada as 35,433,000 bushels of wheat, 39,907,000 bushels of corn, 13,346,000 bushels of oats, 3,632,000 bushels of rye, and 2,314,000 bushels of barley. These figures are smaller than the corresponding ones of a week ago by 201,000 bushels in wheat, larger by 1,335,000 bushels in corn, and smaller by 666,000 bushels in oats. The visible supply of wheat for the corresponding week of a year ago decreased 1,443,000 bushels.

TOLEDO.

Special Correspondence to the Marine Record.

Capt. Andrew Stalker, late master of the schooner Massasoit, has been appointed by Mr. Leander Burdick master of the steamer Panther. Mr. Stalker is young and energetic, and with all the necessary ability and acquirements, he will prove himself worthy of the confidence of the owners of the Panther. Mr. Stalker is one of a family of mariners who have all been masters of lake craft, steam and sail. His many friends are greatly pleased at his promotion.

SHEBOYGAN, WIS.

Special Correspondence to The Marine Record.

The steamer Virginia, of the Goodrich line, is receiving repairs to her boilers.

We experienced the most severe snow storm of the season the fore part of this week.

I will send the appointments of officers at this port as soon as they are made out.

Evidently Capt. Converse had a narrow squeak coming, in "weathering a lee shore," according to the lines I forward the RECORD this week which I hope to see published.

It is thought at Green Bay that a fisherman has found the wreck of the Alvin Clark, a large schooner which capsized in a storm in the sixties. The wreck was never located or it would have been raised.

Mr. T. E. Young, of Chicago, has the contract for altering the cabin of the steamer Sheboygan, of the Goodrich line; the pine-wood finish will be taken off and be replaced with a birch wood finish. Ventilating doors will be placed on the state rooms. Bath rooms and a suite of rooms will also be added to accommodate passengers.

On the opening of navigation the steamer Chicago will be fitted out with an electric light plant. This is the last steamer of the Goodrich line to receive this modern improvement. The steamer Indiana of the same line is receiving repairs to her machinery, new bulwarks and will also be repainted.

Charles Liebermann, the vessel supply dealer here, in company with Mr. J. De Schmidt, has moved from his place of business on the south side, to their store on the north side, and says that he will "be on deck" to supply vessels on the opening of navigation. The business on the south side will be discontinued in the future. The north side house is at No. 530 North 8th St., corner Center.

Mr. George Groh, photographer, and a brother of Capt. Ole Groh, last September had a new style of steam whistle patented. At present he has a whistle completed, which will be placed aboard the steamer Susie Chapman. This whistle instead of being placed in a vertical position, as most whistles are, is placed horizontally. It is noted for its soft clear sound, and can be heard from five to ten miles. This whistle is called the "Basso," and can be blown with less steam than any other whistle in the world.

PORT HURON.

Special Correspondence to the Marine Record.

The tap of the caulker's mallet along the water front is a welcome harbinger of spring.

Miss Lillian Pierce, of Bay City, is visiting her uncle, Capt. J. B. Pierce, of Lapeer avenue.

In a few weeks the captains and engineers will be leaving the city for the purpose of fitting out their boats.

Frank Van Liew will leave this evening for Houston, Tex., where he will spend two weeks visiting his daughter, Mrs. Malcolm Dewar.

The U. S. marshal will sell the barge Levi Rawson at public auction in this city on March 1 next to satisfy a claim held by Edward Hall.

Marcus Young, who is residing at Huronia Beach, during the present winter, says that ice is piled upon the shore of Lake Huron for miles above the lighthouse.

Among the Port Huron vesselowners who have joined the Lumber Carriers' Association are Thomas Currie, L. L. Slyfield, the Jenks' Ship Building Co. and H. E. Runnels.

E. F. Percival telephoned the Times that he would have his steamer Lark fitted out in two hours ready for Cuban waters. He is purchasing all the ammunition in town.

A basket social was held at the rooms of the Shipmasters' Association on Tuesday evening. There was dancing and card playing. The evening's entertainment concluded with a regular Wooden Track hoe-down.

Cyrus A. Sinclair, of Chicago, arrived in the city this morning. Twenty-five years ago Mr. Sinclair was one of the best known young men in Port Huron. He is now connected with a marine insurance company.

A civil service examination has been in progress at the United States court room for the past two days for the purpose of allowing Vessel Inspectors Van Liew and Danger to take the examination under the new law.

Capt. Patrick Ryan: "When I die I want to be buried in the first tier of lots in the soldiers' plat at Lakeside cemetery. I want to be as near the gate as possible so that I can greet the old boys as they are brought to their last resting place."

A. W. Ackers has secured the charter membership sufficient to complete the organization in this city of the lodge of Modern Mariners of America, a beneficial order with headquarters at Marine City. The organization will be completed on Saturday evening.

Huronia Marine Engineers' Association, No. 43, will hold an open meeting in their hall over Boyce's bank, Saturday evening, at which time President George Uler, of Philadelphia, will deliver an address. All engineers in the city are invited to be present at this meeting.

Capt. S. H. Burnham: "We have given the machinery of the steamer Mary a thorough overhauling, and it is in better

shape to-day than ever before. It is possible that we may start running again this week, but shall be fearful that another lay-up will be necessary before spring.

Wm. Brown: "I have a letter from a large Cleveland firm to the effect that if one of my vessel wrecking devices is built in Port Huron they will turn over to the corporation controlling it the greater portion of their business. I am in hopes that during the coming year a company will be formed in Port Huron for the building of one or two of the wrecking outfits."

Huron lodge of the Marine Engineers' Beneficial Association has removed its headquarters to the third floor over the Boyce bank. The facilities for the transaction of the lodge's business, and for the entertainment of both members and visitors, have been greatly enlarged and improved. The rooms are neatly carpeted and well furnished and the tables provided with games and good reading matter.

The barge Jupiter, owned by W. D. Ragan, has been at anchor in Sarnia Bay since the close of navigation. In the gale on Tuesday she dragged her anchor down the bay passing by a number of craft and floating down to a point opposite the Indian Reserve, when the anchor again held. The whole trip was as successfully made as though a skilled navigator had been on board. No craft in the bay was struck and no damage whatever done.

The C. & G. T. R. Co. are engaging a lot of men, such as firemen and engineers, and they have put several marine engineers to work; the best of them are to fire awhile and then get a freight engine, and the age is limited to twenty-seven years. Under the new management they have got rid of all the old men and put on young men to work. It is very hard on the middle aged men who have worked all their life at railroad work, and a number of them many years for the C. & G. T. R.

Jennie Mills, widow of Clarence Mills, who together with Angus King, William Lewis and Harry Little lost their lives in an attempt to rescue the crew of the stranded schooner Shupe, has petitioned the United States government for a pension. The circumstances connected with the wreck of the Shupe and the heroic conduct of the persons who went out of this city in an attempt to save the crew of the stranded schooner, and all of whom, except Daniel E. Lynn, lost their lives, are matters of common knowledge in Port Huron. A more heroic effort to save human lives under terrible circumstances was never made. Friends think that such Christian spirit "doing unto others as they would that others should do unto them" as was displayed in this attempt should be recognized by our government in a substantial way.

CLEVELAND.

Special Correspondence to The Marine Record.

Mr. M. A. Bradley is spending the remainder of the winter in Florida.

Capt. Thomas Wilson, manager of the Wilson Transit Line, is expected home again this week after his trip south.

Work at the Lorain dry dock of the Cleveland Ship Building Co. has been fairly brisk this week, also at the dock of the Cleveland Dry Dock Co.

While Capt. C. E. Benham has resigned as navigating officer of the local naval reserves he is almost certain of appointment to the office of collector of customs.

From this time on the appointments of officers will be made more or less frequent, although it is likely to be a couple of months yet before the general opening of navigation will take place.

The general opinion is that nothing will be done in freights until March 1. Ore men say that it will take about two weeks to get the affairs of their association in shape to sell ore and it is not likely that much will be done in the way of placing freights until the furnacemen have given their orders for ore.

Every effort has been made to get some trace of the missing captain, Wm. Russell, who was keeping ship at Ashtabula for the Menominee line, and suddenly disappeared. Thinking that he might have fallen overboard the river has been thoroughly dragged, but no clue has so far been obtained on that line of work.

Arrangements have been perfected by General Manager Newman, of the Cleveland & Buffalo line, and General Freight Agent McIntyre, of the Detroit & Cleveland line, for landing boats at Lorain the coming season. The companies will make a bid for passenger and freight traffic between Cleveland and Lorain. It is expected the first boat will be placed on the route about April 1.

The Globe Iron Works Co. have a large force of men working on their new contracts at the shipyard, although there is a slight flurry in the ranks of the union workmen lately under employment. It seems as if employers should be left some voice regarding the proper method of conducting their business, and lake shipbuilders, as a body, are men slow to throw their hands up, after undertaking to bring about results.

Presque Isle is the name selected for the large steel steamer being built at the Lorain yards of the Cleveland Ship Building Co., for the Presque Isle Navigation Co. Thos. Kelly will be her engineer. She will be ready for commission in June, and will trade between Marquette and Lake Erie ports. The Presque Isle will be one of the most important additions to the lake fleet that will be turned out this year, and she is to be the peer of anything afloat, in carrying capacity and equipment.

I mentioned last summer that the naval reserves would soon find that although they had bought the condemned revenue cutter, Andrew Johnson for a song they would soon find her a "white elephant" on their hands. At that time they could have got clear of their bargain, and added a considerable sum to their exchequer, now, after having her as a plaything for a few months they advertise in a local paper that she is for sale, and evidently they want to get clear of her just as I had learned from more experienced sources many moons ago.

The Detroit & Cleveland and Cleveland & Buffalo lines have fixed upon an agreement for the operation of the Toledo-Cleveland-Put-in-Bay route this season. The C. & B. steamers State of Ohio and State of New York will be put on the Cleveland-Toledo route. They will make the run at night, but the time of starting has not yet been decided on. The steamers will stop at Lorain and Sandusky. The State of Ohio and State of New York will also take care of the Toledo-Put-in-Bay excursion business. The D. & C. steamer City of the Straits will go on the Put-in-Bay route, the same as she did before the Cleveland-Toledo route was established.

Capt. Cy Sinclair, inspector and wrecking master for a Chicago marine insurance firm, says that the steel steamer Rosedale, which stranded last fall on Lake Ontario, can be rebuilt. The underwriters were forced to take the boat, and they are now advertising for bids, the Western Assurance, of Toronto, being the company most concerned. The vessel, which is a constructive total loss, will be rebuilt during the coming season, and she will probably be seen on the lakes for many years. The Rosedale is one of the few Canadian vessels on the lakes of any modern pretensions, and is a staunch, Clyde-built vessel large enough for the lower lake trade, but only about half the size of the latest built iron ore carriers.

The term as councilman of Capt. C. E. Benham having expired, I am informed that Mr. C. A. Robertson will enter the list as a candidate for the honor. Mr. Robertson is well and favorably known in marine circles, and having been a life-long resident of the ninth district, will no doubt receive the hearty support of his lake-faring acquaintances. The RECORD had something pleasant to say last week regarding Daniel H. Robertson, secretary of lodge No. 4, M.E.B.A., who is a brother of the above named candidate for local honors. It can at least be said, other things being equal, that a candidate for any office having a marine experience, ought to have the good-will of those earning their living in the same occupation.

Under the firm name of J. H. Norton & Co., Capt. L. E. King and J. H. Norton have opened an office at 503-4 Torrey building, Duluth, Minn., and will conduct a general vessel and insurance agency, also making a specialty of purchasing and disposing of all classes of vessels, including tug property, lists of same being corrected up to date for the use of those wishing to buy, sell or exchange. Messrs. Norton & Co. recently negotiated the sale of the steamer Bon Voyage, lately owned by the Thousand Island Ogdensburg Transportation Co., to Capt. B. F. and F. G. Howard, of Duluth; also the tug W. W. Richardson to Capt. Joseph Lloyd, Sr., for John E. Mills, and chartered the tug Violet H. Raebler to the Cranberry Lumber Co., for Raebler & Mueller, of Chicago.

Capt. J. G. Keith, the Chicago vessel broker and manager, has supplied the tonnage that has been loaded by Leiter, and he has already chartered vessels with a capacity of about 5,000,000 bushels. Capt. Keith, when at this port a few days ago, said that tonnage to move about 10,000,000 bushels has been chartered by Chicago brokers and there is only about 2,000,000 bushels capacity on the market. There is about the same amount of tonnage at Milwaukee that has not been placed, but Capt. Keith is confident that all the grain carriers will get cargoes before the opening without trouble. The demand for tonnage is not active at Chicago, but a little business is being done. The rate on corn for storage and delivery at Buffalo is quoted at 2¼ to 2½ cents. It is hard work to get the outside figure for big carriers.

In the notices sent out by the C. & B. Line relative to their new steamer building by the Detroit Dry Dock Co. it is stated that she is now ready for launching. The length of the hull can be best appreciated by comparisons. If stood on end it would be higher than the Statue of Liberty, or adding the beam to the length would be higher than the Ellicott Square building, Buffalo, placed on top of the New England building, Cleveland. She is sixteen feet longer than the U. S. battleship Maine, now sunk in Havana harbor. She is 324 feet long and 78 feet beam over the guards. Her sister ship, the City of Buffalo, has shown a speed of 21 miles an hour more than once, and it is believed that the new boat will be even faster. She will have 160 staterooms, and will accommodate about 450 people. Her cost is estimated at \$400,000.

DETROIT.

Special Correspondence to The Marine Record.

Judge Swan last week ordered the sale of the barge Levi Rawson to satisfy the libel claims of Edmond Hall and others. The sale will be held by United States Marshal Winney at Port Huron on March 1.

The steamer C. S. Powell has been chartered at Milwaukee to load 85,000 bushels of corn. It is reported that the Powell gets 2½ cents per bushel, which is the best rate that has been paid at Milwaukee so far, although a good many Chicago charters have been made at that figure.

Supt. Kimball, of the life-saving service, has received the report of Lieut. Rhineburg, the inspector who was deputized

by Mr. Kimball to make an investigation of the charges preferred against the keeper of the Thunder Bay Island life-saving station to the effect that the keeper has been derelict in his duty. Supt. Kimball declined to state the nature of the report until it has been fully considered by the officials of the Treasury Department.

The firm of Teagan Bros., William T. and John O., state that the performance of their steamer Chauncy Hurlbut, after having her engines compounded last spring by the Detroit Dry Dock Co., has been more than satisfactory. Formerly the steamer burned 165 to 170 tons of fuel, towing a consort at the rate of 7 miles per hour from Ohio ports to the Portage thence to Marquette and return to Lake Erie ports loaded each way. After compounding her engine we find that she now makes the same trip on 100 tons of coal and tows her consort 8 miles an hour, thus showing a saving of nearly the entire cost of change in machinery in one season's work.

The passenger steamer City of Detroit cost \$350,000 when built and \$50,000 has been expended on her since that time. On the Mackinaw division, the City of Mackinaw has shown a speed of 19 miles an hour from Cheboygan to Alpena. When the D. & C. boats begin work this season the lower works of the hull will remain a dark green, but the upper will be painted an old ivory, taking the place of the light brown. Still, these fine lake passenger steamers do not in any way compare with the Long Island Sound steamers. The Priscilla is the finest of these. She is 440 feet long, has a beam 93 feet and cost \$1,500,000. She runs on an easy schedule of 20 miles an hour. She has sleeping accommodations for about 3,000 people and her average number during the season is 1,000 a night. Expense cut no figure in her construction and she is a revelation to lake steamboat men who travel on that line for the first time.

FLOTSAM, JETSAM AND LAGAN.

Congressman Minor has introduced a bill appropriating \$20,000 for a light on Long Tail Point, Green Bay.

Capt. Alfred Nelson, of the Big Point Sable life-saving station, has been notified to appear before district superintendent Robbins on the 1st of March and answer to the charges of misconduct that have been preferred against him.

The following from the usually correct Cleveland Leader is a trifle anticipatory just at this season: "Capt. W. F. McGregor, of the steamer Mary H. Boyce, which has just made the trip from Grand Haven to Buffalo, reports that the east shore ice fields have been driven into the lake fully fifteen miles, and are being so thoroughly broken up by a heavy southeast sea that they will cause no further trouble to steamers." It is safe to say that it will be a few weeks yet before communication can be opened between Lakes Michigan and Erie.

Another well-known sailing master has been removed within the past few days by the death of Capt. C. M. Swartwood of the steamer J. H. Wade. Capt. Swartwood had been on the lakes thirty-four years, or from the age of fourteen. He gradually rose in his chosen occupation until he became captain of the Christie. From the Christie he went to the William Chisholm, of which he was master for two years. For the past four years he was captain of the Wade. In September he was compelled to give up his position, owing to heart trouble, since which time his health kept steadily failing until his death.

Work of surveying the lake fleet for the new edition of the Inland Lloyd's vessel register is well in progress, the reports being about half in. Copy is expected to be ready for the printer March 1st. Nearly all the inspectors are new men, the evident idea being to obtain estimates uninfluenced by former surveys. This means more than it may seem, for the effort is plainly to obtain valuations from experts who are not bound down by former estimates or by the opinions of others. It means, therefore, that there is pretty certain to be an unusual amount of rating down of hulls, and such appears to be the expectation. Not that this will be any advantage to the underwriters, as it is claimed that the former classification was as well balanced as it has ever been, at least from an underwriter's standpoint.

CLASSICAL EDUCATION OF TACOMA, WASH., OFFICIALS.

TACOMA, WN., Feb. 9, 1898.

New York Maritime Register.

Dear Sirs:

Your Register I see is sent to this Office. I have bin appointed Harbormaster in Mr. Hoflins plase now for 11 Days and iff Mr. Hoflin has subscribed for the Papper I do not wonted because I wil proble bi ind 2 Months more and out I goa iff the oddier side should Elect ther Mayor so Please stop the papper iff it is not sent free to this Office.

Yours respectfully,

J. A. JACOBSON,

Harbor Master.

The above letter is as self explanatory as could possibly be expected from such a source, and for the sake of the port of Tacoma which the writer knew (before a vessel could reach the present port) it is to be hoped that the other side will succeed in electing their mayor and appoint a half-qualified harbor master. We sympathize with the Maritime Register in this instance, as the foregoing directly applies to some lake ports and the RECORD has received just such notices, but preferred at the time to conceal the ignorance, which perhaps ought to have been duly heralded.

CLEVELAND HARBOR IMPROVEMENTS.

The appropriation for the continuance of the improvement of the Cleveland harbor and breakwater under the continuous contract system, which should amount to \$402,000, has so far not been included in the river and harbor bill.

This was ascertained a day or two ago and Congressman T. E. Burton is making strong efforts to have it inserted, but with what success it is yet too early to say.

The statement was made by Gen. Wilson, Chief of Engineers, that the appropriation was left out of the river and harbor bill owing to the dispute over land the United States engineer at that point needs to carry out the projected improvements.

The omission of the Cleveland item is due to the controversy between the Pennsylvania company on one side and the city of Cleveland on the other. As is well known by Clevelanders, the railroad company owns a small parcel of land fronting on the Cuyahoga river immediately south of the Lake Shore railroad bridge, and for the past year has refused to consider any proposition to dispose of it. The property is needed to complete the widening of the river near its mouth, and though the city has offered to purchase it the Pennsylvania company has declined to sell.

The War Department has been appealed to repeatedly to begin appropriation proceedings to get possession of the land, but it has remained inactive, much to the chagrin of all interested.

The importance of the port warrants a liberal appropriation as the local tonnage reached 6,116,873 tons in 1897, and it is growing at the rate of nearly 1,000,000 tons a year. The total value of merchandise, coastwise and foreign, handled at Cleveland last year, was \$50,034,583.

LUMBER CARRIERS' ASSOCIATION.

The salaries of the officers of the recently organized Lumber Carriers' Association have been fixed at \$1,200 a year for the secretary, \$600 per year for the treasurer, and all officers are to have their expenses paid while traveling on the business of the association.

The following signatures have already been obtained: A. W. Comstock, Detroit; Alex. Sinclair, Duluth; E. G. Riesterer, Tonawanda; John F. Wedow, Cleveland; Shoalwater Transportation Co., Detroit; Connelly Bros., Buffalo; Thomas Currie, L. L. Slyfield, Port Huron; C. R. Jones, Cleveland; the Jenks Ship Building Co., Port Huron; C. H. Wicks, Duluth; John J. Boland, Buffalo; William E. Pierce, Bay City; Fred Kirker, Toledo; J. M. Hannaford, St. Clair; T. Hurley, J. E. Sheehan, Nelson Blair, Detroit; Reynolds & Sinclair, Port Huron; W. D. Smith, H. R. Harvey, Detroit; Harry Richardson, Buffalo; Corning & Edgar, Saginaw; F. W. Gilchrist, Alpena; George W. Ryan, Charles E. Little, Saginaw; T. F. Madden, Bay City.

From the present outlook it is thought that the new association will be a success in working for the best interests of the lumber carriers and others engaged in that business.

MAJOR SEARS' REPORT OF THE COMMERCE OF DULUTH-SUPERIOR HARBOR.

Major Clinton B. Sears, Corps of Engineers, U. S. A., has issued his report of the lake commerce of the Duluth-Superior harbor for the season of 1897. The report this year is even more elaborate and complete than usual. It shows a gratifying increase over the commerce of the season of 1896.

The total net freight tonnage of the harbor for 1897 was 8,475,224 tons as compared with 7,886,833½ tons in 1896 and 6,325,351 tons in 1895. The value of the commerce of the harbor for 1897 was \$118,551,185 as compared with \$111,676,900 in 1896 and \$95,000,000 in 1895.

The total number of vessels entering and departing from the harbor during 1897 was 9,758 as compared with 10,948 in 1896, and 10,986 in 1895. The commerce of the Duluth-Superior harbor represents about 50 per cent. of the business of the "Soo" canals.

Thus it will be seen that in two years the valuation of the commerce of the harbor at the head of the lakes has increased more than \$23,500,000. It is an interesting fact that while there is a substantial increase in the freight tonnage there is a decrease in the number of vessels. This fact is accounted for by the new and larger class of vessels that have made their appearance during the past two or three years. The first influence was felt during the season of 1896 when despite an increase in the commerce of the harbor there were 36 less vessels reported than in 1895. Still more pronounced is the influence during 1897 when nearly 600,000 more tons of freight were moved than in 1896 with 1,370 less vessels.

The report of the increased commerce of the Duluth-Superior harbor for 1897 is all the more gratifying because it was accomplished regardless of the fact that there was a falling off in the volume of grain, which is among the principal commodities of the port every year. The average registered tonnage of vessels reported at the Superior entry during last season exclusive of tugs, was 1,500 tons as compared with 1,446 tons in 1896.

The average registered tonnage of vessels reported at the Duluth ship canal for 1897, exclusive of tugs was 1,386 tons as compared with 1,257 tons in 1896. The difference between Duluth and Superior receipts is caused by coal. Following is a tabulated statement of the commerce of the harbor for 1897:

DULUTH RECEIPTS.

Anthracite coal, tons.....	239,472
Bituminous coal, tons.....	442,802
Limestone, tons.....	17,957
Salt, barrels.....	142,858
Machinery, tons.....	351
Manufactured iron, tons.....	24,596
Kerosene oil, barrels.....	1,289
General merchandise, tons.....	123,378
Logs, M feet, B. M.....	79,290
Fish, tons.....	588
Cement and lime, barrels.....	53,841
Sand, cubic yards.....	2,316
Building stone, tons.....	1,957
Passengers, 22,451.	

Total net tons.....	885,623
Estimated value.....	\$16,378,660

DULUTH SHIPMENTS.

Iron ore, tons.....	2,342,679
Copper, tons.....	6,729
Flour, barrels.....	3,560,829
Wheat, bushels.....	17,702,017
Other grain, bushels.....	7,006,572
Structural iron and steel, tons.....	385
Wool, pounds.....	4,595,483
Lumber M feet, B. M.....	227,428
Shingles, M.....	13,125
Lath, M.....	1,018
Miscellaneous merchandise, tons.....	19,308
Passengers, 22,075.	

Total net tons.....	3,890,457
The total net tonnage of Duluth was 4,776,080 tons.	
Valuation, \$55,260,067; passengers arriving and departing, 44,526. Entries and departures, 6,229 vessels 8,004,473 registered tons.	

SUPERIOR RECEIPTS.

Anthracite coal, tons.....	434,604
Bituminous coal, tons.....	1,032,503
Building stone, tons.....	836
Salt, barrels.....	138,713
Machinery, tons.....	75
Manufactured iron, tons.....	39,664
Kerosene oil, barrels.....	118,998
General merchandise, tons.....	53,079
Logs, M feet B. M.....	33,334
Lime and cement.....	7,982
Fish, tons.....	64
Sand, cubic yards.....	570
Passengers, 3,594.	

Total net tons.....	1,606,797
Valuation.....	\$12,584,462

SUPERIOR SHIPMENTS.

Iron ore, tons.....	525,333
Copper, tons.....	44,345
Flour, barrels.....	4,418,366
Wheat, bushels.....	20,339,917
Other grains.....	13,252,016
Structural iron and steel, tons.....	136
Wool, pounds.....	8,343,350
Lumber, M feet.....	57,897
General merchandise, tons.....	19,232
Passengers, 4,291.	

Total net tons.....	2,092,347
Valuation.....	\$50,706,656

The freight movement for Superior was 3,699,144 tons. Valuation, \$63,291,118. Total entries and departures, 3,529 vessels, having a registered tonnage of 4,841,392. The total number of passengers arriving and departing from the head of the lakes during 1897 was 52,411 as compared with 49,690 in 1896.

VESSELS CLASSED.

The American Shipmaster's Association classed or rated this week in the "Record of American and Foreign Shipping" the following named vessels: Bark, Justine H. Ingersoll; three-masted schooner, Nellie W. Howlett; ship, Servia; Swedish bark, Karna, and Russian bark, Southern Belle.

GRAPHIC METHOD TO FIND THE DEVIATIONS FOR MAGNETIC COURSES FROM DEVIATIONS OF COMPASS COURSES.

When deviations are large it is required to construct two deviation tables, one for compass courses and the other for magnetic courses, in order to correctly convert magnetic courses into compass courses. The means for finding the deviations for magnetic courses from deviations of compass courses is a diagram containing the deviations for compass courses and the curve of the deviation total. The construction of this diagram is as follows:

Draw a North-South line or course line about 18 inches long, and divide it into 32 equal parts. Of the points of division call the uppermost point North, the next below N by E and so on, and draw through each point a line at right angles to the course line. Select a convenient scale for the deviations and by it lay off from the course line on the East-West line for each point the deviation; East deviation to the right, West deviation to the left; and through all the points thus obtained draw a continuous curve.

On any of the East-West lines lay off from the course line to the East a certain number of degrees by the deviation scale; and the same number of degrees by the course scale lay off on the course line downwards from the East-West line selected; join the two points thus found by a straight line and call its direction the standard direction. A line parallel to the standard direction through any point of the curve intersects the course line in a point representing the magnetic course, equivalent to the compass course indicated by an East-West line through the point of the curve.

Therefore, to find the deviation for any magnetic course, draw through the respective point of the course line (the course line representing compass courses as well as magnetic courses) a line parallel to the standard direction intersecting the curve, and through this intersection point draw an East-West line; on this line the distance between the curve and the course line represents the deviation for the magnetic course, equal to the deviation for the compass course indicated by the East-West line. Thus, for any point of the curve the ordinate representing the deviation always indicates on the course line the compass course and the slanting line through the point of the curve parallel to the standard direction intersects the course line at the magnetic course.

By using this diagram of right-angled co-ordinates, the number of scales for the deviation is unlimited, thus affording a convenient means for representing the smallest deviations, residual errors after adjusting, etc. Equal scales for courses and deviations require slanting lines at 45 degrees. Scales whose ratio is as 1 to 2 require slanting lines at the same ratio, etc.

As the ordinates in this diagram represent the deviation total which equals the algebraic sum of the quadrantal and semi-circular deviation, it is only necessary to construct the quadrantal curve to find the semi-circular deviation superposed on the quadrantal. By taking half the algebraic sum of the deviations on opposite compass courses commencing with North over East, the quadrantal deviation is found for both semi-circles. The quadrantal curve divides the ordinates representing the deviation total into the two constituent parts, semi-circular and quadrantal deviation.

Therefore, when the quadrantal curve is constructed, by the slanting line parallel to the standard direction, through any point of the curve of the deviation total is found at once, not only the deviation total for the respective magnetic course, but also the constituent parts of the deviation for that course. The advantages of a system of right-angled co-ordinates for compass courses and deviations over any other, for instance, Napier's diagram, are so perspicuous and manifold as not to need any further comment.

JOHN MAURICE.

Chicago, Feb. 22, 1898.

THE annual statement of the Richelieu and Ontario Navigation Co. at the annual meeting held in Montreal, Feb. 7, showed net profits for last year of \$108,130, out of which two semi-annual dividends of 3 per cent. each on the capital stock had been paid, amounting to \$81,000, leaving a surplus of \$27,130. The total assets of the company, including steamers, real estate, etc., amount to \$2,324,082. The new steamer, building at Toronto, to be ready for this year's service will be named the Ontario, and will have state-rooms for 400 passengers; she will be much on the same style as the Fall River liner Plymouth, and will have a speed of 20 knots, though her schedule time will be at 17 knots. Another large steamer is also to be built for the season of next year.

THE DEEPENING OF CHICAGO RIVER.

The Black Diamond, Chicago, one of the most enterprising and influential journals published in the interests of the coal trade, miners, transporters and dealers, states relative to the deepening of Chicago river as follows:

The interests of coal operators and others who have docks on the Chicago river are involved in the coming visit of the Rivers and Harbors Committee of the House of Representatives, Washington, and no opportunity should be missed to present to the gentlemen composing the visiting committee, the importance of Chicago and environs for consideration in the apportionments of the estimates for improvements in regard to deepening the channel of the Chicago river to a depth of 20 feet. In regard to its effect on the foundations of large structures, etc., W. S. Bogle, president of the Crescent Coal & Mining Co., says: "I wish to say, first, that in my opinion the deepening of the channel in the river to a depth of 20 feet will not endanger the foundations of large structures. Many of the docks along the Chicago river were constructed at a time when 12 feet was the maximum depth of the channel that was required or existed. These docks, in my opinion, are totally unfit for the present depth of the channel, viz., 17 feet, and should be replaced, they having already been in existence beyond the average life of a dock, but as they have already fulfilled their requirements and sustained large structures in close proximity to them with a depth of channel six feet in excess of that for which they were constructed. I think it is fair to assume that they would stand an additional depth of channel of three feet. This is especially true where the channel does not approach closely to the dock line. Wherever there are heavy structures adjacent to the dock, such as grain elevators, freight warehouses, etc., and where it is necessary for deep laden crafts to come close to the dock, the docks already constructed will, I believe, fully sustain all such structures even if the channel was deepened to more than 20 feet.

Second: That all coal docks, where large bodies of coal are stored on the land adjacent to the dock lines, particular attention has already been paid to dock construction. During the past ten years most of these dock lines have been rebuilt, and in each instance the dock as built has provided for a deeper channel than now exists, as it has been very apparent that a deeper channel was a necessity. In many instances 40-foot piles and 30-foot sheeting has been used. I know of docks that have been dredged to 18 feet close to the dock, have had large bodies of coal stored on the land adjacent to the dock, and have not bulged or got out of line a particle. These docks could easily stand two feet more of channel along their immediate edge.

Third: The presence of large structures or the pressure of large bodies of coal stored on the land adjacent to the dock lines, will not affect the depth of the water in the channel of the river, unless the bottom of the river is removed adjacent to the dock lines and below the piles of sheeting. Such an event, however, could only result through ignorance or recklessness, and only with docks that were out of date, and not up to even present requirements. An experience of upwards of 30 years on the Chicago river, wherein it has been necessary to dredge year after year in front of the same dock, the dredgings have always been in the nature of slime, and evidently a deposit from the dumpage of foreign matter into the river, which is carried along and deposited by deep laden crafts, and by currents, which are of frequent occurrence. Wherever it has become necessary to deepen a channel, I have always found material solid and in place."

Other gentlemen seen presented practically the same opinions, and it is hoped and expected that sufficient data will be presented to the committee to enable it to make the claim that the Chicago river is one of the most important adjuncts and aids to the commerce of the northwest.

OUTLOOK AT THE HEAD OF THE LAKES.

The following letter from a prominent firm at Duluth will be of interest at this time to vesselmen:

"Absolute inactivity characterizes the condition of the Duluth grain freight market. There has been an improvement in the receipts of grain, but the steady accumulation of stocks does not seem to stimulate activity on the part of eastern buyers. With cash wheat practically under the control of Chicago speculators, there is no reason to look for any immediate inquiry on the part of wheat shippers. Duluth makes a creditable showing of corn in store. This grain is controlled by the elevator companies, and, as a carrying charge now prevails in this commodity, it is not probable that corn will be moved forward at the opening unless marked conditions change. The opinion seems to be that oats will go forward promptly as soon as navigation permits.

Rye is always an indefinite commodity here, and is sent forward usually in small lots, the railroad lines taking care of everything offering. The weather is extremely mild for this season of the year. Outside there is no ice of any consequence, and unless surprisingly cold weather prevails from now on, the port of Duluth will be open at an unusually early date. Coal is being moved forward quite actively despite the warm weather that has prevailed in the northwest. People in authority seem to think there will be a good demand for coal tonnage early in the season. Below is a comparative statement of bushels of grain in store for the same day of 1897 and 1898:

	Feb. 12, 1897.	Feb. 12, 1898.
Wheat.....	3,843,051	2,483,104
Corn.....	17,556	2,160,987
Rye.....	733,296	1,185,094
Oats.....	1,739,968	1,880,078
Barley.....	771,981	891,903
Flax.....	1,699,949	627,186

Totals..... 8,805,801

8,948,352

"The lumber market continues without incident. Every day or two a small sale is reported, but it must be confessed that the inquiry is a little disappointing. The claim is made that the Duluth and Ashland markets are higher than other lake ports. This probably accounts for the small sales reported here. The quantity of unsold lumber on the docks here is between 90,000,000 and 100,000,000 feet. This lumber is confined mostly to inferior grades. One mill has already begun operations, while others will not get to work until the opening of navigation. The quantity of logs being received here by rail and the extensive operations both here and in Wisconsin promises great activity the coming season for the mills. Undoubtedly this will be the largest season in Duluth sawmill history."

NOT GOING TO BUILD.

It is difficult to understand why some of the papers persist in the statement that the Northern Steamship Company intends building new boats the coming season, when the report is emphatically denied by the officers of the line. Some time since, after an interview with Mr. Farrington, the Courier, with his sanction, contradicted the rumor; but still it continues to circulate. Yesterday the story was again positively denied. The members of the company are themselves at a loss to trace the origin of the rumor. It is known that Capt. Inman, of Duluth, has invented a new ice-crushing steamer, which, it is believed, would be capable of running continually all winter, thus keeping a channel open. It is also learned that Capt. Inman suggested to the Northern people that they build a boat after his model, pointing out the advantages which, to his mind, would be gained by so doing. No serious consideration of Capt. Inman's proposition was taken by the Northern line, but the fact mentioned may have been the foundation of the rumor that new boats were to be added.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Buffalo.....	1,034,000	1,365,000	100,000	50,000	483,000
Chicago.....	9,376,000	16,077,000	1,371,000	796,000	645,000
Detroit.....	121,000	18,000	4,000	21,000	6,000
Duluth and Superior	2,544,000	2,331,000	2,167,000	1,218,000	601,000
Milwaukee.....	130,000	123,000	110,000	46,000	26,000
Montreal.....	96,000	56,000	748,000	25,000	46,000
Oswego.....	.....	.....	.....	.....	6,000
Toledo.....	264,000	488,000	311,000	17,000	.....
Toronto.....	42,000	.....	14,000	.....	20,000
On Canal.....	.....	.....	46,000	.....	.....
On Mississippi.....	.....	.....	.....	.....	.....
Grand Total....	35,433,000	39,907,000	13,346,000	3,632,000	2,314,000
Corresponding Date, 1897.....	45,215,000	26,413,000	13,565,000	3,726,000	3,396,000
Decrease.....	201,000	.....	666,000	316,000	354,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

THE Shipping World Year Book for 1898 is at hand, complete as usual in the way of a manual for references by merchants, shippers, shipowners, shipmasters and shipping men generally. It presents the tariffs of all nations, pilot charges and other statistics of all the principal ports in the world, consular fees, coal prices, tables of distances, foreign moneys, common shipping laws, etc. There is also a map of the world on Mercator's projection showing at a glance the principal steamship routes and distances, nature of the various countries, etc. It is published by Major Jones, Effingham House, Arundel St., Strand, London, England.

MARITIME LAW.

THE THOMAS B. GARLAND.

FIFIELD et al v. THE THOMAS B. GARLAND.

District Court, D., New Jersey. Nov. 30, 1897.

SALVAGE—COMPENSATION—STRANDING.—The services of a steamer, worth about \$7,000, which was loaded and ready to proceed to sea, in pulling off at high tide, at considerable risk and some danger to herself, after an unsuccessful attempt at the previous high tide, a schooner worth \$8,000, grounded in the shifting sands on the inner shoal of the inlet to Great Egg Harbor, N. J., held to be salvage services, for which \$500 should be awarded.

This was a libel in rem by John C. Fifield and others against the schooner Thomas B. Garland to recover compensation for salvage services.

Kirkpatrick, District Judge. On the 8th day of May, 1896, the schooner Thomas B. Garland, in attempting to enter Great Egg Harbor Inlet, in this district, with a cargo of ice consigned to Frank Champion, of Ocean City, in the county of Cape May, went aground on what is known as the "Inner Shoal," on the west side of the channel. The hour of her grounding was about 5:30 in the afternoon, at a time when the tide was at the top of the flood. The wind was light, and the schooner was unable of herself to float. The ebbing tide made matters worse, and the life-saving crew of the stations on the near-by land visited the vessel, and were unable to furnish any relief. The captain and pilot left the ship, and went to Somer's Point, which is on the inside of the inlet, across the bay on the mainland, and there interviewed the captain of the steam tug Nellie Rawson, and asked for assistance. The Rawson was loaded and ready to put to sea, but agreed that if able to reach the schooner, and pull her off in the morning, so as to avail herself of the morning tide to cross the bar, she would render assistance. The amount of water in the channel on the side on which the schooner was grounded, as well as on the bar at the outlet of the inlet, was hardly sufficient at high water to float either the schooner or the steam tug. The Rawson, with the captain of the schooner aboard, visited the schooner on the top of the morning tide, and made several unsuccessful attempts to float her. The steam tug then went away, and endeavored to cross the outer bar of the inlet to proceed upon its voyage, but was unable to do so, on account of the want of sufficient water. At the request of the captain of the schooner, the Rawson again made fast to the schooner at the top of the flood tide in the evening, and after successive efforts, by aid of its own power and that of anchors which it had run, succeeded, by surging, in loosening the schooner from the sand, and setting her afloat. Prior to the afternoon attempts to float the schooner, she had been lightened of perhaps one-quarter of her cargo by jettison. The channel leading into the Great Egg Harbor Inlet is narrow and dangerous, surrounded on either side by treacherous shoals of shifting or quick sands, and the amount of water which the Rawson, loaded, required, was the full tide, and therefore the services which she rendered were of a dangerous nature. In the attempts to loosen the schooner from the sand by the surging operations, the bitts of the steamer were loosened, and the boat otherwise damaged, so much so that afterwards it was necessary to put her on the dock, and \$151.90 of repairs were found to be necessary.

I am satisfied from the evidence that the position of the Garland after she went aground was a dangerous one. She was on the west bank of the channel, in shoal water, distance about one-quarter of a mile from the shore, on a bottom of shifting sand, exposed to any storm which might arise, and protected from the force of the open seas only by a bar upon which at high tide there was about eight feet of water. Of herself the schooner could do nothing, and the only available aid was that which was afforded by the Rawson. No nearer help was nigh, nor could any be obtained without sending to either New York or Philadelphia, which would entail a delay of perhaps 36 hours. Under the circumstances, I consider the services rendered by the Rawson meritorious, for which they are entitled to salvage.

This claim for salvage is objected to on the part of the claimants on the ground that, before entering upon it, the captain of the Rawson had agreed to perform the service for the sum of \$50. This is denied by the captain of the Rawson, and the evidence on the part of the claimants does not support it. The value of the schooner is about \$8,000, and that of the tug about \$7,000. Under the circumstances, I think a fair award to the libelants for the services rendered would be \$500. Let a decree be entered for that amount, with costs.



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CLEVELAND, O., FEBRUARY 24, 1898.

It is not likely that the project to build trestle work so as to span the neck of Anchor Bay at St. Clair Flats will be carried out. Senator McMillan called upon Senator Frye, Chairman of the Committee on Commerce, a day or two ago in connection with the proposed bridging and he said that it was necessary even when the consent of Congress had been secured to submit plans and specifications to the engineers of the War Department, and approval must be had before the work began. He would not venture an opinion as to what was necessary to be done until he knew more about the matter. It is a general law, however, that if navigable streams are to be crossed, either by draw or high bridges, an act of Congress is required to give permission. In this case there would probably have to be previous action by the board of supervisors of counties affected. The embankment might have the effect of causing stagnant waters along the shore. A southeast wind would drive the water into this pocket, and it would run out like a mill race. It might not do this, but it would have to be submitted to and acted upon by the proper officials.

It is a notable and congratulatory feature that among the largest vessel-owning firms the spirit of the proverb that "the laborer is worthy of his hire" is being observed. The Bessemer fleet, of which Mr. J. D. Rockefeller is one, if not the principal owner, transfer some of their tow-barge masters into steamers for this season and give them the same rate of wages, viz: \$100 per month. This is as it should be, for the employe worth that amount in a schooner, consort or tow-barge is likely to be of equal or more value in any other executive capacity, and the mate of a large cargo steamer has more chances to distinguish himself, as also to act in the best interests of ship and owners than when holding the position of master of a tow-barge. The wages account is of course a considerable expense item in the season's work of any vessel, but it has seemed a paltry, inexcusable and parsimonious order of business to keep cutting down a few dollars monthly in the salaries of the principal employes on board of large, valuable steamers. A skillful, energetic and careful officer, as compared with a qualified, but otherwise indifferent one, can frequently save his owners the cutting of his salary in the course of a season, and this, too, without taking into consideration the recompense for his services. On the whole, the best conducted, most successful and progressive ship-owning firms pay the highest salaries to the officers of their vessels, while the cheese-paring policy of paltry deductions and generally indifferent treatment is left to those who hold different views. Good, deserving men are worthy of all consideration. Such men on board of a ship do more for their owners than is called for in any other walk of life, occupation, trade or profession, and should be treated accordingly. The ship-owners' best hold is to bring up his own officers and masters.

THE SHIPPING QUESTION.

The following was read at the recent annual meeting of the American Manufacturers' Association held in New York:

What we have already accomplished in the development of our foreign trade is but a slight suggestion of what will be accomplished in the future. What we have gained in this field has come to us often only after costly experiment. Experience shows us clearly the limitations, natural or artificial, which prevent an easier advance toward the great ends we are striving to attain. The shipping question is still to-day, as I declared it to be in my annual report last year, inseparably bound up with the problem of the extension of American trade. The most important link between the maker and the foreign consumer is the ship, and if our systems of ocean transport are not equal to those of any other land we are, it would seem, at a disadvantage for which nothing else can give us adequate compensation.

Upon the high seas our flag is scarcely ever seen. The harbors of the world contain the ships of every great nation except our own. The year begins and ends again in many of the greatest ports without one American vessel or one Yankee sailor entering there. That the situation is still grave and that it calls for the attention of those who have merchandise to transport, as well as for those who are directly engaged in the shipping business, there can be no question.

British ships carry nearly \$4 worth of our imports to every \$1 worth brought in our ships. British ships convey about \$7 worth of our exports to every \$1 worth taken in our own ships.

According to recent compilations in England based upon official reports of the gross and net tonnage of the 16 leading steamship lines whose vessels are on the sea to-day not one is American. There are in the list two German lines, several British lines, two French lines, an Italian line, an Australian line, a Spanish line, and a Japanese line. There can be no doubt that the systems which have been used to build up and strengthen the shipping lines of other countries must be employed here also, if we are ever to take a more creditable place among the nations in respect to ocean transportation.

Without entering at all into the theories of government, concerning which men disagree, it is the unquestioned duty of a modern government to provide for the quick and direct transport of the mails. Governments undertake to make contracts for carrying the mails, and in general for attending to the business of postal communication. It is, therefore, the recognized right of the governments in all countries to grant mail subsidies. Further than this, it is the general function of a government to arrange for the national defense, and naval subventions, these, are not unusual in aid of lines which agree to build their vessels in such a way that they may be readily convertible into transports or cruisers in time of war. Some governments have gone still further than this, and have held that the opening up of new transportation routes upon the sea will bring so much economic benefit to a country by reason of its widening the markets for the merchantable goods and products of the people of that country, that the subventions are made partially, if not solely, upon this account.

The African, Oriental and Australian lines, for which the German government makes an annual payment to the North German Lloyd Co., Bremen, were established ostensibly with scarcely any other end in view, and it is believed among all influential classes of the German people that the investment is a good one. England and Canada, acting jointly within the year past, have subsidized a fast trans-Atlantic line, one of whose avowed objects is an increase of the commercial relations between the colony and the mother country. In every great country except our own it seems to be generally understood that the government should aid in the establishment and maintenance of useful steamship lines. Our situation has become so unnatural by long neglect that heroic measures are now essential.

For a few years more liberality on the part of the government may be called for than the conditions will make necessary in time to come, but now while we have so few ships of our own, while American lines are being organized, and are struggling for an existence, while our freights await shipment and our mails to many countries with which we need to establish commercial connections should be conveyed more frequently, more speedily and more directly, subventions when they can be judiciously granted should not be withheld.

Outside of the comparatively few who are directly concerned as investors in the shipping to our country, none

have so large an interest as the manufacturers in the creation of American steamship lines. We are reaching out for foreign trade and we find our efforts obstructed by shipping interests that are inimical of our own. When we ship our goods to remote South American ports we find a combination of British lines operating under an understanding which stifles competition and leaves us no alternative as to routes or rates. If we wish to send a salesman to Venezuela, the nearest point in South America, and then to Rio or Buenos Ayres, we find that important ports naturally upon the same route are separated by two voyages across the entire Atlantic. To make the trip with reasonable comfort one must first go to Laguayra, then return to New York and proceed to Rio by way of England, thus traveling 11,500 miles to reach points that should be touched in a voyage of 5,000 miles.

The solution of this problem must come through the efforts of the manufacturers of the United States. It is no longer the seaboard merchants and the vessel owners whose interests are at stake. It is a question that strikes hard upon the commercial and industrial interests of the nation in the far interior as well as upon the coast. Nothing that the organized manufacturers of the United States can accomplish would be so far-reaching in its benefits to our trade and our industries as the solution of this great problem—the replacement of our once glorious fleet of seagoing vessels.

IMPROVE CHICAGO RIVER AND HARBOR.

The "I Will" of Chicago is bound to predominate. There is little doubt that the trip of the congressional committee to Chicago this week will be instrumental in accomplishing what the Chicago River Improvement Association desires—the establishment of a uniform depth of twenty-one feet from the mouth of the Chicago river to the intersection of the drainage canal in the south branch, and to Goose Island in the north branch.

"We congratulate the congressional committee on what they saw in their tour of the Chicago river yesterday. It was not a propitious day for sight-seeing, but they saw enough to be amazed over the vast extent of the shipping in our land-locked harbor, and to be astonished that any citizen of Chicago should be so blind to its marine interests as to propose to cripple its facilities in any way. As they viewed the docks and elevators along the narrow and dirty stream they were convinced that it must be deepened, broadened and straightened instead of cramped and abandoned, as suggested by Charles T. Yerkes, in the interests of his three street car tunnels.

"Thirty miles of dockage, with vessels lying two deep along a large part of the distance, was an argument against an abandonment of the river harbor against which Mr. Yerkes' tunnels emptied their protests in vain.

"Good will come from the visit of the congressional committee, for its members will go back to Washington to sing the wonders they have seen, and recommend an adequate appropriation for our great river harbor. 'Chicago ought to have what it asks within reason for the river,' said Congressman Ball, and this appeared to be the prevailing sentiment of the congressional excursionists.

"Chicago is spending over \$30,000,000 to run from 300,000 to 600,000 cubic feet of lake water per minute through its harbor. It will remove the center-pier bridges in time. It will have the tunnels lowered, and Chicago asks Congress to dredge the harbor deep enough for the largest lake vessels."—Editorial Chicago Evening Post, Feb. 22nd.

"The members of the Committee on Rivers and Harbors of the United States House of Representatives, who have come to Chicago to find out by personal investigation what should be done to improve the navigation facilities of the greatest of all the lake ports—the most important port save one in the entire country—did not have the best of weather yesterday. A trip on the Chicago river is not enjoyable at any time, certainly not during a snow-storm.

"But, unpleasant as the day was, the committeemen were able to perceive clearly the narrow, winding, obstructed nature of the stream the volume of whose commerce has attained such vast dimensions. They were able to see how it is blocked up with the center piers of bridges and with projections of land that ought to be cut off. They were able to see, also, how the three tunnels in the main river and the South Branch made it impossible for vessels drawing more than sixteen feet to do little more than enter the river.

"The Congressmen are already well acquainted with the magnitude of the commerce carried on here. The chairman, Mr. Hooker, represents a New York district which borders on Lake Erie, and he is thoroughly familiar with the subject of lake navigation. He appreciates the fact that whatever is done to improve the navigable facilities of the Chicago river, benefits all those producers in the West and Northwest whose products are shipped eastward from this port.

"Before the Congressmen came here they were of the opinion, from what they knew of the conditions existing in Chicago, that the outer harbor project, and the scheme to cut a wide ship channel through the center of the south division were equally impracticable. The investigations they are making will not cause them to change their opinions.

Nor will they, who have come here to look into the improvement of the river, recommend that that portion of it between Lake and Twelfth streets be closed to navigation by fixed bridges.

"That which the committee will do, probably, after ascertaining by personal inspection, the difficulties under which the vast commerce of the Chicago river is carried on, will be to recommend to Congress that the legal depth of the river, which is now 16 feet, be made at least 20 feet. Then the tunnels will be an obstruction which will have to be removed by being lowered.

"The commerce on the lakes is to be carried on, henceforth, mainly in vessels drawing twenty feet of water. The committee will see the mischief that will ensue if such vessels are denied entrance to the most important harbor on the lakes.

"The government is not so flushed with revenue at this time as to be able to make large appropriations at once for the widening and deepening of the Chicago river, the desirability of which the members of the committee were enabled to see yesterday. But they will undoubtedly recommend that some money be appropriated and a beginning be made in what they must be convinced is an absolutely necessary national work."—Editorial, Chicago Tribune, Feb. 22.

PRESIDENT UHLER OF THE M. E. B. A.

The re-elected national president of the Marine Engineers' Beneficial Association, Mr. George Uhler, who is now making at our of the lake ports, made the following address last week before the Toledo branch, No. 37. After giving a general outline of the benefits to be attained by a membership in the association, Mr. Uhler said that it made better citizens and better engineers. One of the excellent things the association has done, has been to raise the standard of qualifications for applicants for an original license for an engineer.

He compared the duties of engineers with men in other professions, to those of the doctor, the lawyer and the minister of the gospel, each having time to prepare to meet emergencies that may arise, but an engineer is called upon without a moment's notice to meet exigencies that require quick and accurate judgment, and also require the greatest skill and bravery, where the slightest misjudgment on his part might lead to the destruction of a million dollars' worth of property and thousands of lives.

It may not be generally known that this association was started in Cleveland 23 years ago, and now numbers several thousand members from Maine to California.

He referred, in speaking of the benefits of the association, to the marine engineers of Australia, where wages had been decreased until there was little or nothing in the profession. They organized and wrote the national president of the association of the United States, making inquiry as to the objects, aims and workings of the association in this country. All possible information was given them, and they are now working under similar methods to the association in this country, and their condition financially and intellectually has been greatly improved.

Before the organization was first inaugurated the engineers were working without aim or object, but now they are well organized, and their methods have been uplifting in the way of higher education in their profession, and they have forced recognition on the part of the United States government in according them their rightful place as officers on steam craft. There was a time when the engineer was rated much below the captain, but the engineer of the present day takes his place socially with the highest officers in rank on a vessel.

Referring to the charitable brethren of the association, he spoke of a man whose education fitted him for a high place among men. Intellectually he was above his fellows, kind and generous, but laudation ruined his usefulness. Through the efforts of a friend he became a member of the Association, and its influence led him up to a better life. He kept rising, and his wife, feeling the great effort that had been made in his behalf, came to the Association rooms, fell on her knees at the altar and fervently thanked the members for their kind and Christian endeavor.

Mr. Uhler concluded his remarks with an appropriate quotation from a speech of Abraham Lincoln.

President Uhler is a gentleman who has very high attainments. He is a fine orator, well educated, and has a wonderful memory. He stands high in the estimation, not only of the members of the order, but of everybody who knows him.

OBITUARY NOTICES.

(CAPT. CHARLES M. SWARTWOOD.)

The funeral of the late Capt. Charles M. Swartwood took place from his late residence No. 28 Jay street, Sunday afternoon. Capt. Swartwood died Thursday last after a long illness. He was born at Lorain, Ohio, in 1850 and made his home there for the greater part of his life. His sailing experiences began when he was 14 years of age. He gradually rose in his business until he became captain of the Christie. From the Christie he went to the William Chisholm, of which he was captain for two years. For the past four years he was captain of the J. H. Wade. During September, 1897, he became troubled with contraction of the muscles of the heart and was compelled to give up his position. From that time his health kept steadily failing until his death. He was a member of Woodland lodge K. of P., Lorain Tent K. O. T. M. and P. H. C. No. 32, of this

city, and of a Cleveland lodge K. of H. Capt. Swartwood was married in 1871 to Agnes Dennison, of El ria. His wife survives him. The remains were buried at North Amherst besides those of the captain's parents.

(CAPT. HORACE THACHER.)

Capt Horace C. Thacher, of the firm of Thacher & Breyman, submarine engineers and contractors, of Toledo, died at his home on Twenty-first street, this week, after a lingering illness. He was attacked by the grip, which developed into a complication of diseases. He leaves a wife and five children.

The news of Capt. Thacher's death was received with sorrow by hundreds of friends. He was as true a gentleman as ever lived. No man had a warmer heart or a kindlier nature than he. He was a quiet, unassuming man, with a kind word for every one.

Capt. Thacher was born in Toledo in 1844, was educated in the middle schools, studied civil engineering and was for 19 years in the city engineer's department in Toledo, nine years of which he was chief engineer. He entered into partnership with Capt. George Breyman in 1881, and since that time has taken rank among the great engineers of the country. The firm has done a great deal of the heaviest submarine work in the United States. Deceased was a man of close application, and was constantly engaged in working out new ideas in his profession.

Capt. Horace C. Thacher was in the engineer's department in the city of Cleveland when the late war broke out. He joined a Cleveland regiment, and when his services in the army had closed he became a member of the Grand Army of the Republic. He was a 33rd degree Mason. Mr. Thacher at the time of his death was 54 years old.

WEATHERING A LEE SHORE.

IN ST. GEORGE'S CHANNEL.

"Keep the weather leech of your topsail shaking!"
Cries the pilot, while at the wheel I stand;
And I hear the thunder of white surf breaking,
And I know that to leeward is Barmouth Sand.

Laden with sleet comes the piercing blast;
Sail after sail from the yards are blown;
Three close-reefed top-sails, three swaying masts,
Are all that our lives are depending upon.

For the gale is blowing right dead on shore;
We must weather the point where Tregarthen light
Shines out in the darkness for miles a score,
With a glare of red and a flame of white.

"Will she fetch by?" are the words I hear,
As the captain cligs to the weather rail,
And shouts in the pilot's listening ear,
Who scarce can hear him above the gale.

Glances the pilot aloft, ahead—
From stiffened sail to the surging sea;
While over the roar of the wintry gale,
Comes the boom and thunder of surf on our lee.

And he shakes his head with its locks of gray;
"God grant it!" he answers, but says no more,
While over the knight-heads comes driving the spray,
And nearer the thunder of sea and shore.

A moment of dread—when, with bated breath,
I eye the distance from ship to shore,
And counting the chances 'twixt us and death,
I think of my loved ones as never before.

"Square the main yard!" comes the joyful cry;
"West and by south is the course to steer!"
Astern are the dangers we passed so nigh,
And a leading wind, 'till we make Cape Clear.

But fore-castle Jack, with his flippant tongue,
That night, in the dog-watch, said to me:
"Shipmate, no man who is born to be hung,
Will ever be drowned in the raging sea."

FRANK H. CONVERSE.

THE Duluth-Superior coal business has grown almost without a relapse from 60,000 tons in 1875 to 2,126,751 tons in 1893. For several years thereafter traffic fell off owing to commercial depression. The movement of coal through St. Mary's Falls canal in recent years has grown at a much more rapid rate than the receipts at Duluth and Superior. Every effort has been made by the coal dealers of Chicago and Milwaukee on one hand, and Duluth and Superior on the other to secure the trade of the Northwest. The rates from lower lake ports are almost always less to ports at the head of Lake Superior than they are to ports at the head of Lake Michigan. If a line be drawn from Eau Clair to La Crosse, across northwest Iowa to the Missouri river, and down this river to about the center of Nebraska, all territory lying to the north and west of this line would be supplied with hard coal from the head of Lake Superior.

OFFICERS APPOINTED.

Mr. H. Coulby, manager of the transportation department of Pickands, Mather & Co., having decided upon captains and engineers for the vessels under his charge has concluded to give out the list, which follows:

Minnesota Steamship Co.: Steamers—Manola, captain, A. P. Chambers; engineer, D. A. Black. Mariska, captain, H. Zealand; engineer, David Burns. Maruba, captain, F. J. Crowley; engineer, B. F. Cana. Matoa, captain, A. H. Reed; engineer, W. W. Tyler. Marina, captain, J. W. Morgan; engineer, W. A. Meddaugh. Masaba, captain, H. C. McCallum; engineer, A. L. Wilcox. Maritana, captain, C. H. Bassett; engineer, George Arnold. Mariposa, captain, F. D. Root; engineer, F. A. Smith. Maricopa, captain, G. B. Mallory; engineer, P. J. June. Barges—New barge, captain, A. J. Talbott. Martha, captain, E. L. Sawyer. Magna, captain, John Weeks. Manda, captain, H. Savage. Malta, captain, H. Culp. Marcia, captain, M. K. Chamberlin.

Interlake Co.: Steamers—Kearsarge, captain, Robert McDowell; engineer, L. H. Sebastian. Victory, captain, Fred. Hoffman; engineer, Thos. Treleven. Barge Constitution, captain, William Holly.

Huron Barge Co.: Steamer—Pathfinder, captain, W. B. McGregor; engineer, C. A. Heisner. Barge—Sagamore, captain, E. C. Joiner.

American Steel Barge Co.: Steamers—Colgate Hoyt, captain, Neil Campbell; engineer, Gilbert Patterson. E. B. Bartlett, captain, M. C. Cameron; engineer, John Dupont. J. L. Colby, captain, C. D. Secord; engineer, William Densmore. A. D. Thomson, captain, Charles Grant; engineer, John McLaughlin. Thomas Wilson, captain, F. A. Bailey; engineer, A. J. Smith. Samuel Mather, captain, Robert Jones; engineer, Alex. McKenzie. J. B. Colgate, captain, John Parke; engineer, Herman Folkert. J. B. Trevor, captain, John Dunn; engineer, Walter Harsant. Frank Rockefeller, captain, M. A. Boyce; engineer, J. H. Pierce. New steamer, captain, W. H. Kilby; engineer, Irwin Marshall. Barges (captains not yet assigned to their respective boats)—Captains, Edward Morey, Louis Leonard, W. H. Dick, Dan. McFadgen, R. W. Gleason, G. W. Smith, Robert Brooks, George Gallant, Willard Damon, Robert Thompson, George Jorgenson, John Sprowell E. Emanuelson, John Nahrstedt, A. Siljander, James Burr, H. Harris, Jr., A. G. McLeod, H. M. Saveland, Samuel Durfee, J. W. Norcross and C. H. Noble.

Appointments have been made of masters and chief engineers of the Union Steamboat Co. as follows:

Starrucca, captain, Walter Robinson; engineer, Henry Jordan. Ramapo, captain, J. H. McDonald; engineer, Reynold Hill. Chumung, captain, F. B. Huyck; engineer, George Fritche. Tioga, captain, John Wulke; engineer, Charles Conshone. Owego, captain, J. Byrne; engineer, Alexander Brown. Jewett, captain, John Dugan; engineer, Albert Simpson. Rochester, captain, George T. Morris; engineer, Nelson Johnson. New York, captain, P. O'Neil; engineer, John Call.

There are three promotions. Capt. O'Neil was first mate of the Starrucca last season. Engineers Simpson and Brown were promoted from the position of second engineers on their respective boats.

CORRECTIONS FROM MARINE CITY.

I have just received the following letters by the last mail before going to press:

MARINE CITY, MICH., February 23, 1898.

Editor Marine Record:

I wish to correct an error in your issue of the 17th inst., under the heading of "Marine City," relative to the steamer Aztec. The Aztec is still the property of, and will be managed as heretofore by the Marine Transit Co. Capt. J. W. Baby has the appointment as master for the coming season.

Yours respectfully,

MARINE TRANSIT CO.

W. S. ROBERTS.

MARINE CITY, MICH., February 23, 1898.

Editor Marine Record:

Kindly correct mistake in your issue of the 17th, through your correspondent from Marine City in the Marine City appointments where Capt. David Carrier was appointed for the steamer Aztec, which, I am sorry to say, is not the fact. I expect to close an engagement before long, but not the Aztec.

Yours respectfully,

DAVID CARRIER.

At a meeting of shipowners at Christiania, Norway, recently, the question of changing the present words of command to the man at the wheel was discussed. It was talked of in England twenty years ago, and also discussed by most all other sea-faring nations. The navies of Germany, France, Italy, Austria, Portugal and Sweden, and some of the large German steamship companies have superseded the old words of command, "starboard" and "port" meaning to bring the vessel's stern to starboard or port, by "right" and "left," that is the vessel's bows to be turned to the right or left; but no country's mercantile marine (with the exception of some German lines) has adopted the change. All the Norwegian associations are agreed that it is desirable the old system should be altered so that the word of command should actually express the way the vessel was intended to be turned, but that no change should be made unless it could be done internationally.

CHICAGO Nautical School,

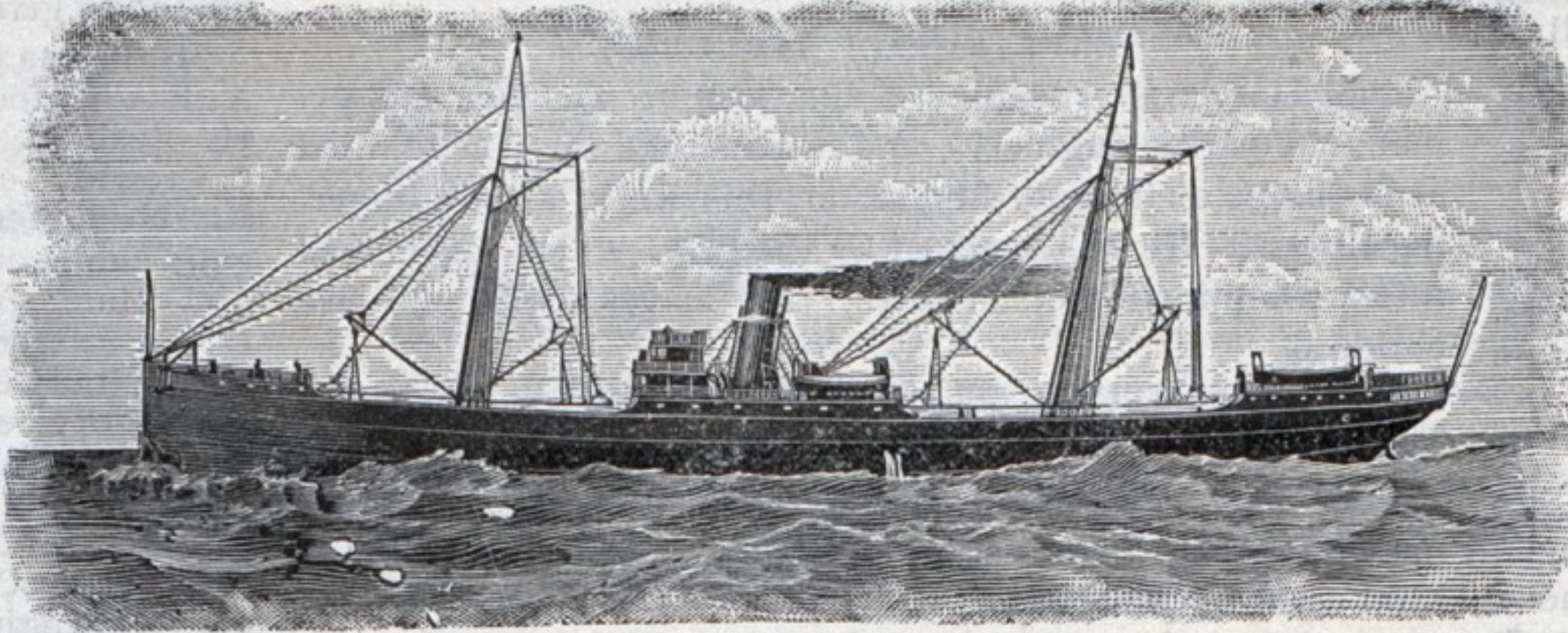
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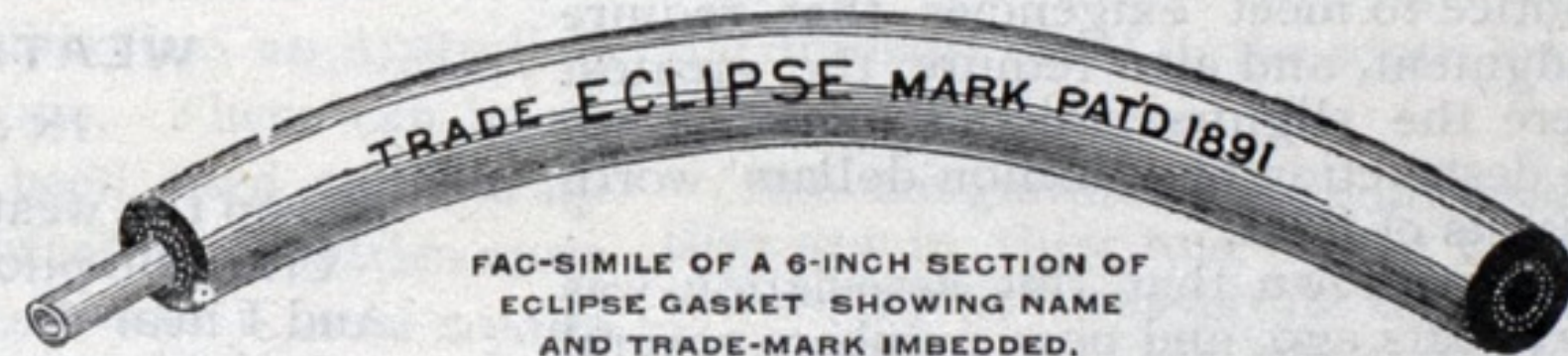
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SINKING OF THE MAINE.

Now that citizens of every age, shade and experience have ventured their opinions relative to the Maine disaster, it is refreshing to hear something pertinent and discreet from a reliable and practical source.

Capt. Joseph Kidd, of Duluth, Minn., the well known naval architect and consulting engineer, says that he does not anticipate that there will be the slightest difficulty in establishing whether the destruction of the battle-ship Maine was the work of accident or of an enemy. Any ship-builder he says, can tell after investigation whether there was an explosion on the outside of the vessel.

"It will be one of the simplest matters in the world," said Capt. Kidd, "to tell whether the destruction of the ship was the work of a torpedo, the simple exploding of the magazine or of the boilers. The facts cannot be hid from the eyes of men who have a good knowledge of ship construction and equipment. If it was a torpedo that was exploded on the outside and which resulted in the setting off of the magazine, rest assured that it will be known. Even if the damage was occasioned by a boiler exploding, that fact will be known also, even if the boilers are demolished. The damage to the boilers will bear certain evidences, and these will tell if they exploded, or if they were damaged by some other cause. If a torpedo was exploded under the ship, it will be easy to establish the fact. Its work, especially on a steel vessel, can be told at a glance. The mystery concerning the disaster will surely be cleared up."

"From all that I have heard of the disaster I am inclined to the theory that the accident happened on board the Maine. In what manner or from what cause it is not known apparently, at this time. The Cubans, who must regard an American man-of-war with friendly eyes, could not have done the damage. The Spanish would not dare to do such a thing. The theory is also advanced that some of the rabble of Havana might have conceived and carried out a plot to destroy this noble vessel and her brave crew. I do not believe that there is anything in this opinion either, for the very reason that torpedoes capable of blowing up a man-of-war are expensive, and the rag tag and bob tail of Havana would not have the price of such costly explosives. A torpedo capable of the results of the first explosion would have cost \$2,000 or \$3,000."

EASTERN FREIGHTS.

Messrs. Funch Edye & Co., New York, send the RECORD the situation of the eastern freight market as follows:

Some charters have been effected for vessels for picked ports for later terms at rates but slightly varying from present quotations, but the fixtures of smaller tonnage reported

are almost exclusively for prompt business, as several charterers appear to have stood short of tonnage to the last, and are now being driven to cover at figures which, added to our steadily advancing grain prices, render new business practically impossible, and berth rates for liners are suffering accordingly. The advance in cotton has momentarily checked business from the Atlantic cotton ports, which is mostly confined to shipment of this staple. We have no charters to report by steam of case oil for the Far East, and the timber trade continues inactive, owing to the high rates demanded by owners. A feature of this week's report is the improved enquiry for sugar from Cuba, resulting in several fixtures at rates approximating those paid before the revolution practically destroyed this industry.

Our market for sailing vessels continues to be characterized by firmness and inactivity, the latter owing to scarcity of suitable tonnage and the enhanced ideas of owners. The enquiry for vessels for case oil, timber and lumber continues fair, but so far shippers have not been willing to concede any advance in rates, and consequently but little has been accomplished in above trades, whilst fixtures for other commodities, under light enquiry, are equally void of improvement.

WELL EARNED PRAISE.

The Geneva Free Press contains a good cut of Captain Lewis B. Cummings, of that place, one of the youngest masters on the lakes, accompanied by the following write-up of the senior and junior shipmasters of that name:

We are pleased this week to present to our readers a fine portrait of Capt. B. Cummings of this place, of the mammoth new barge Polynesia. There is probably no other captain of his years on the lakes who has command of so large a carrier. He is a son of Capt. C. H. Cummings of the steamer Italia, also a resident of Geneva. Lewis is 24 years of age, and has sailed the lakes for 12 years, during the last four of which he served as mate and second mate under his father. Last August he was promoted to the command of the big Corrigan barge, Polynesia, and in October brought down from Lake Michigan to Fairport the record-breaking corn cargo (221,000 bushels). He passed a rigid examination this winter before Inspector DeWolf, of Cleveland, and received first-class master's papers which entitle him to com-

mand steamers. Lewis is a pleasant spoken young man, of excellent habits, and bears his honors with easy grace.

Capt. C. H. Cummings, father of Lewis, has sailed both the fresh and salt water seas for the past forty years. In his capacity as a sailor he has visited England, Scotland, Turkey, Austria, the West Indies, and other countries. In Austria he navigated the Danube river up to the city of Galatz, a distance of 150 miles. He knows the Great Lakes of North America as an open book, from Duluth to Ogdensburg, and can almost tell where he is sailing, blindfolded, by the taste of the mud on the lead. He has been a captain of schooners for 13 years, a master of steamers for 17 years, and for the past 10 years has sailed boats for James Corrigan, an excellent tribute to his ability. The captain is a careful navigator and has few mishaps to answer for.

A LAKE SUPERIOR SOUTH SHORE LINE.

Mr. B. F. Howard, of Duluth, will take over the management of the freight and passenger steamer Bon Voyage, now owned by the Thousand Islands & Ogdensburg Transportation Co. The consideration is said to be \$30,000. The new boat will be on the south shore run between Duluth and Marquette during the coming summer. Mr. J. G. Howard will be associated with B. F. Howard in the enterprise.

This deal has nothing to do with another proposed new steamship line to operate on the south shore. The steamer Bon Voyage will be a most desirable addition, however, to the vessels plying the waters at the western end of Lake Superior. She is of 500 gross tons, is 153 feet long, 30 feet beam and 17 feet deep. She is licensed to carry 860 excursionists, and has berth and stateroom accommodations for 125 passengers. The boat has a record for speed of 15 miles an hour. The Bon Voyage will make three trips a week between Duluth and Hancock and intermediate points, and will make one trip a week as far down the shore as Marquette. Capt. Howard says that she will engage in the freight and passenger business on the south shore just as soon as she can be fitted out this spring.

The Bon Voyage is said to be one of the best wooden boats of her class on the lakes. She was built in 1891 at Sagatuck, Mich. She was on the run between Gladstone and Manistee last season, and is a very popular boat where she is known. Capt. Howard is of the opinion that the Bon Voyage will prove a favorite in Lake Superior waters. He contemplates a number of desirable improvements for the boat, notably that of lighting by electricity.

TOLEDO CAN'T HAVE A FIRE TUG.

Toledo councilmen can't understand the value of having a fireboat to protect the water front, although the chief of the fire department told them that the strongest argument in favor of a tug was that the cities having them were entirely satisfied with their work. Chicago has four and is building another. New York has lately given an order for more, and all the cities with extensive dock fronts are doing the same. As a matter of economy everything was in favor of the tug. It would do the work of six steamers, that will cost as much, if not more, than the tug. Houses would have to be provided for the steamers, and eighteen men would be needed to run them, while ten could run the boat, all of which however, was lost on the opinionated councilmen, but they, or their successors will no doubt contract for the building of a good, powerful fireboat in the very near future.

THE CRAIG SHIP BUILDING CO.

There is a good deal of work now being done at the yards of the Craig Ship Building Co., Toledo. Two craft are in course of construction. One is for the North American Transportation and Trading Co. She is to run to St. Michaels on the Yukon river, Alaska. She will be 105 feet long, 23 feet beam, and 9 feet deep. She will have fore and aft compound engines, 12 and 24 by 16. These are now being built, and will be ready for delivery soon. Her boilers are being built by Reeves, of Toledo. She will be a twin screw, and will turn two 5½-foot wheels. She will be delivered at Seattle in June next. Transported there by railroad.

The other boat is for the United States government, engineer department, and her destination is Buffalo. She will be of steel, and fitted with water tube boilers, to be furnished by the Taylor Water Tube Boiler Co. She will have fore and aft compound engines, 12 and 24 by 16. They are being built by the Toledo Foundry & Machine Works. She will be 70 feet long, 15 feet beam, and 7 feet draught. Delivered in June.

GREAT SHOOTING.

Lookout in the San Francisco Commercial News has the following story this week:

Capt. Gates, of the S. P. Hitchcock, was recounting some of his wonderful experience and adventures at sea recently in the office of J. F. Chapman & Co. before an interested group of listeners. Amongst the number was Capt. Colcord, who remarked when Gates had finished, that sea stories were often discredited, but there was no doubt many strange events and incidents were occasionally experienced on ship board. For instance, he remembered when off the Chilean coast on a voyage to San Francisco in the A. J. Fuller, seeing a hawk circling around the ship away up in the air, about as high as these birds usually fly. After watching it for some time the captain's wife, who was on board, remarked that she would like to have that fellow's wings, whereupon the captain said she should have them. He got out his small calibre Winchester rifle and waited quietly on the poop for a favorable opportunity. But the story must be told in the captain's own words.

"The wind was steady," he relates, "the sea smooth, and the ship steering full and by. I knew I could hit the bird all right, but the thing was to get him in such a position that he would fall aboard. At last he came around where I wanted him and I fired. We distinctly heard the ping of the bullet as it struck the bird, and saw a single feather slowly drifting downward, but the hawk after a sudden violent contortion in the air resumed its steady sailing round the ship. A second time I waited my opportunity and fired, and again we heard that the bullet had struck, and again a single feather fluttered down, but the hawk beyond turning another somersault, showed no particular sign of injury. This was puzzling, and I began to think he had a charmed life, but I determined to have one more try and then let him off if he escaped. Carefully waiting for the right position I let go again, and this time the charm was broken, for the hawk came tumbling down and fell on the deck not 18 inches from my feet. The last shot had struck him fair in the middle of the breast, whilst the marks of the other two were distinctly visible where they had struck and glanced off one of the wings without breaking the bone. He was the leanest hawk I ever saw, but he measured five feet from tip to tip, and if any one doubts my story, my wife can show the wings."

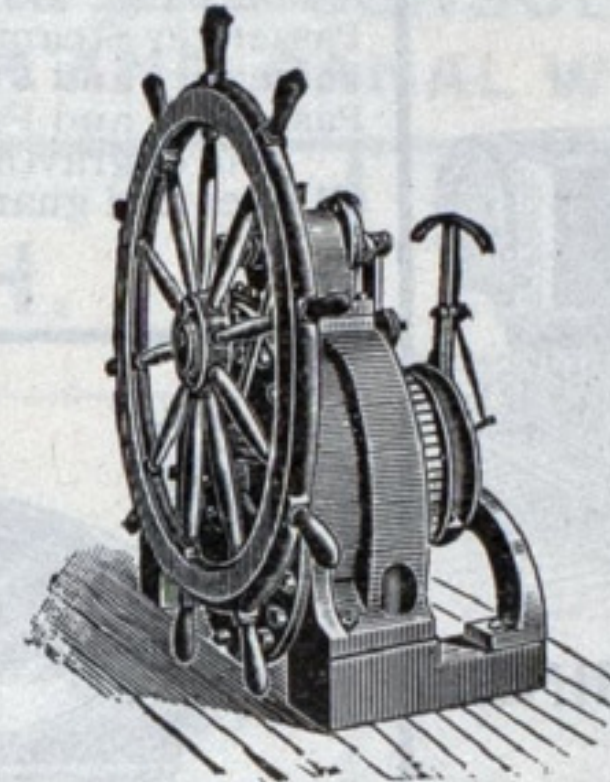
A writer in the Engineering Magazine says that during the last fifty years the size of the steamships has been multiplied twentyfold, the horse-power employed to drive them has been multiplied fortyfold, and the speed with which they traverse the seas has increased threefold.

PROPOSALS.

PROPOSALS FOR DREDGING.—U. S. Engineer Office, Duluth, Minn., January 31, 1898. Sealed proposals for dredging in Portage Lake Ship Canals, Keweenaw Point, Mich., will be received here until noon, February 28, 1898, and then publicly opened. Information furnished on application. CLINTON B. SEARS, Major, Eng'rs. 5-8

PROPOSALS FOR CONSTRUCTING LOCK AND APPROACHES.—U. S. Engineer Office, Custom House, New Orleans, La., Feb. 16, 1898. Sealed proposals for constructing lock and approaches for improving Bayou Plaquemin, La., will be received here until 12 o'clock noon, April 15, 1898, and then publicly opened. Information furnished on application. Jas. B. Quinn, Major, Eng'rs. 7-10.

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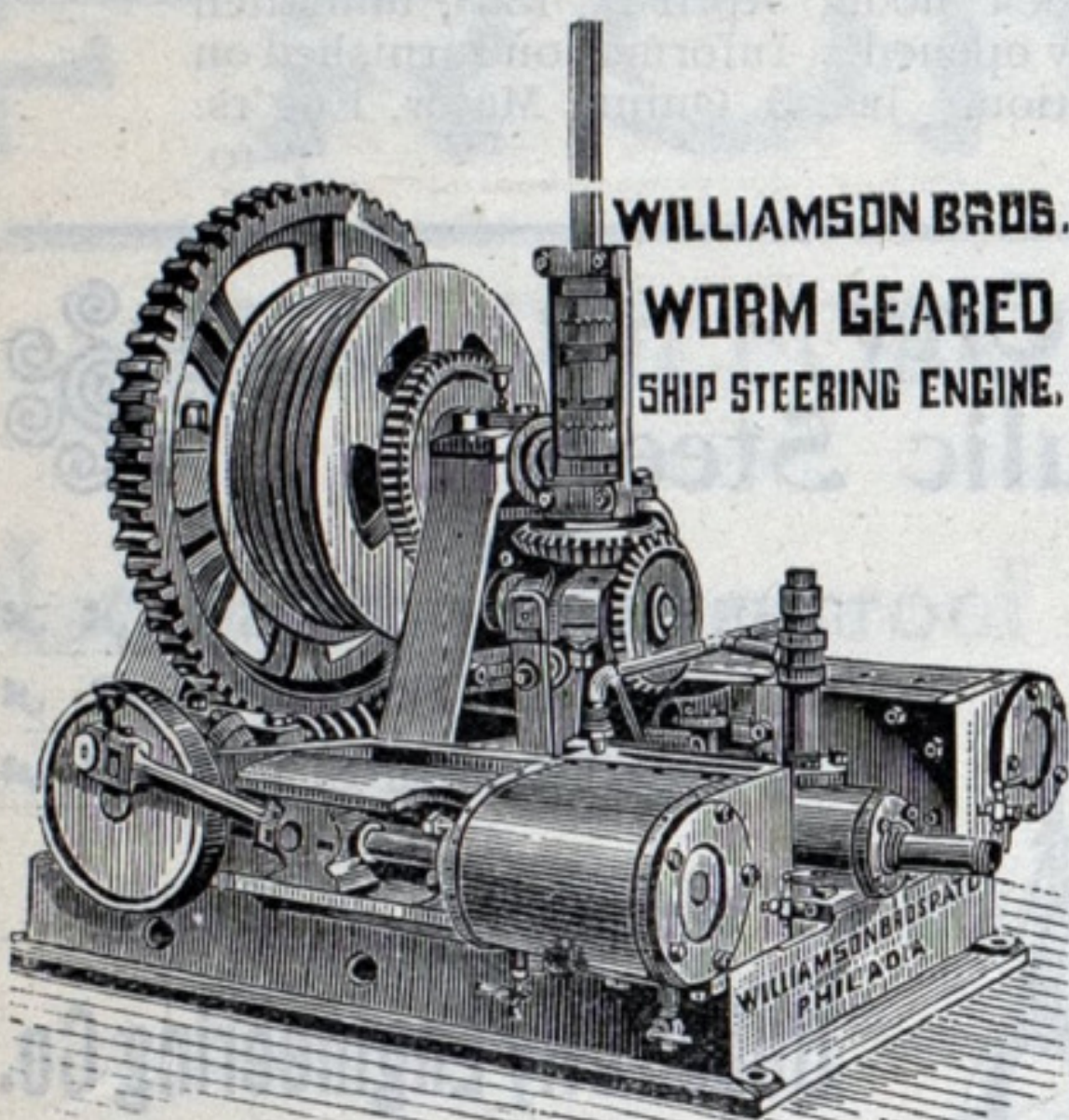
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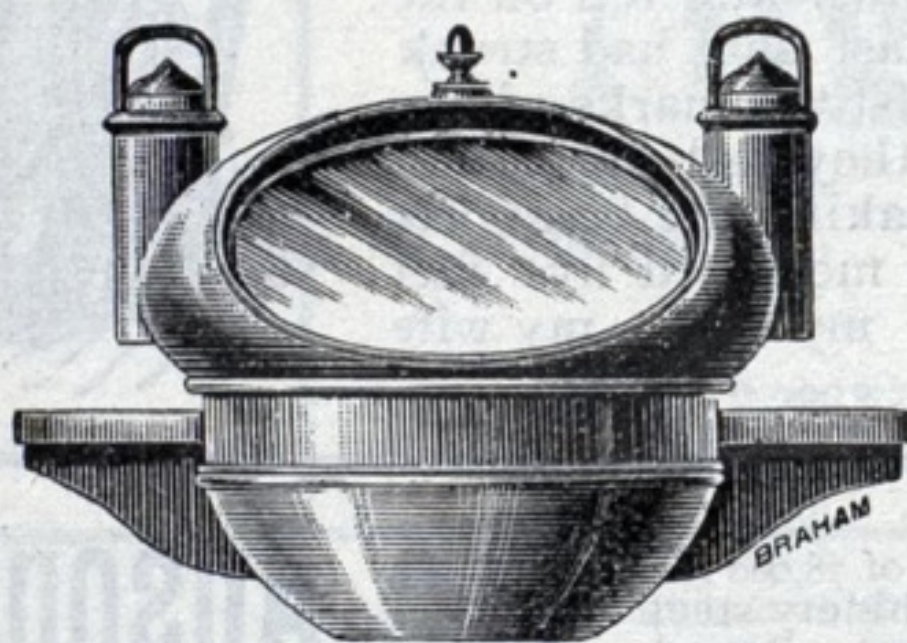
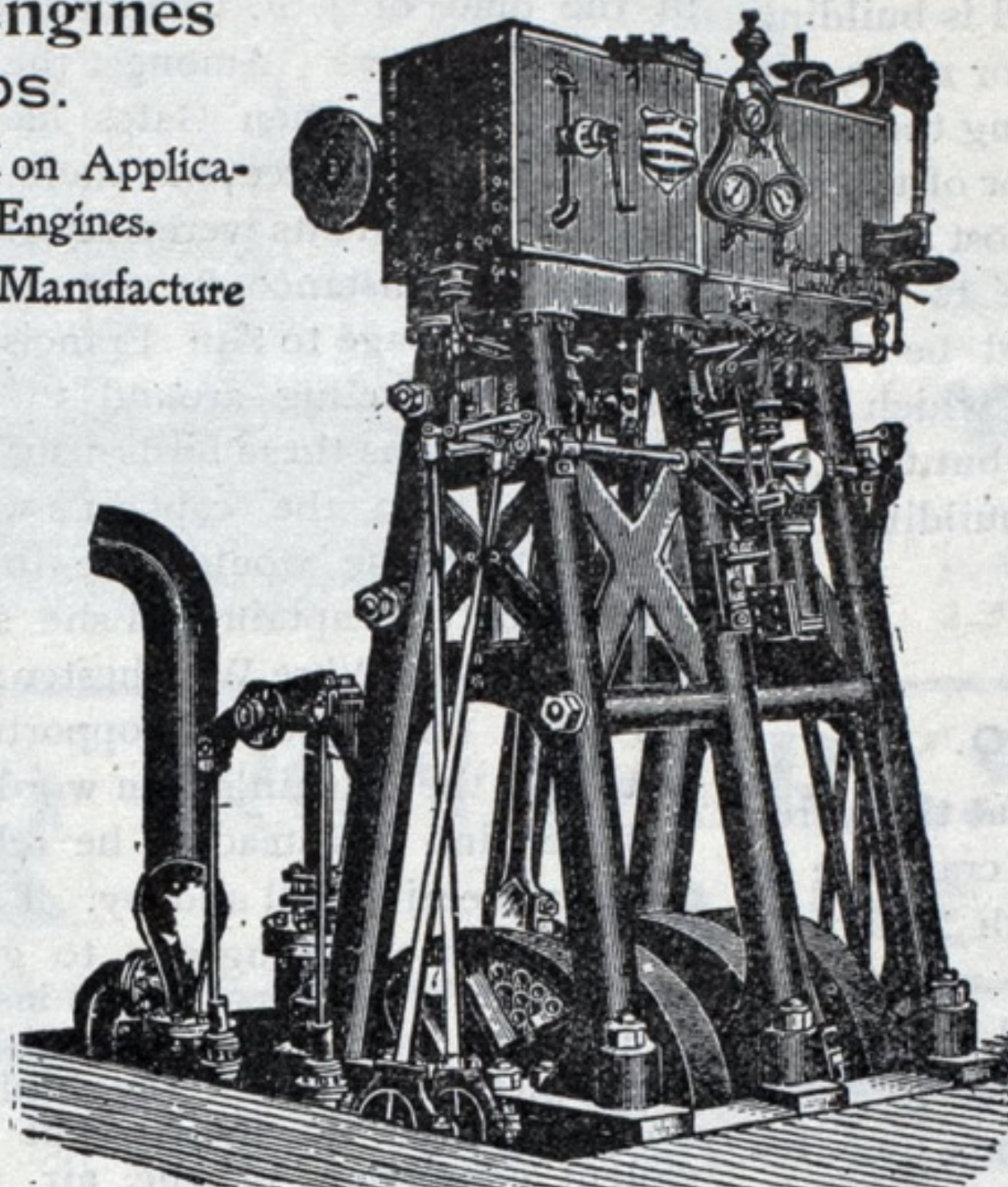
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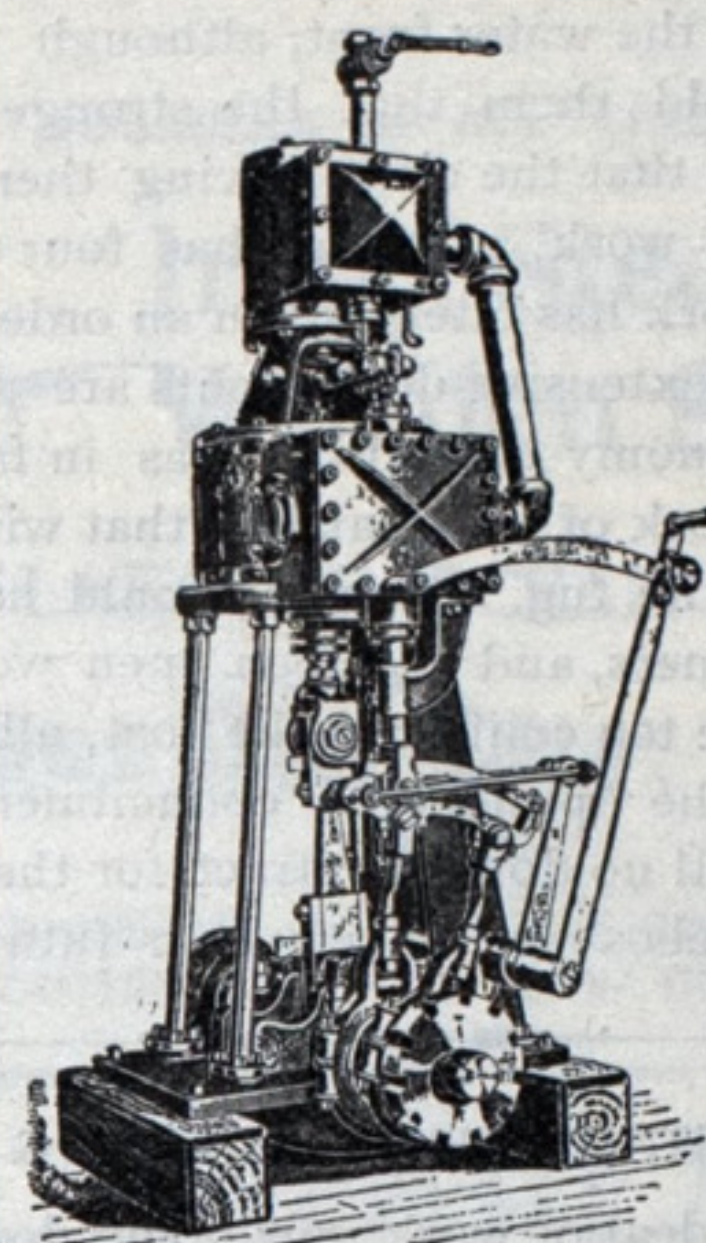
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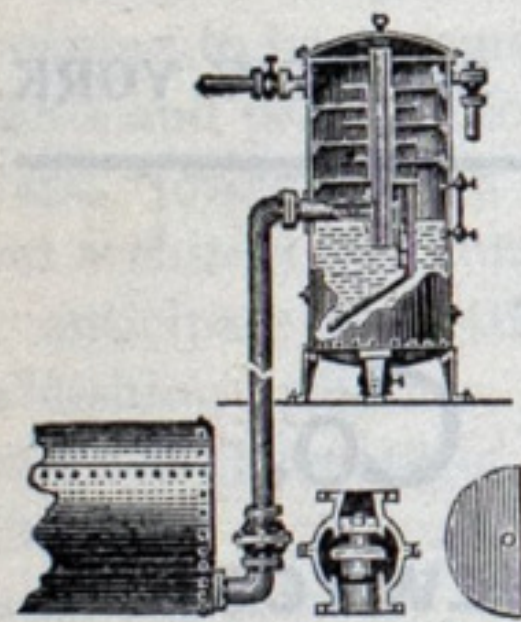
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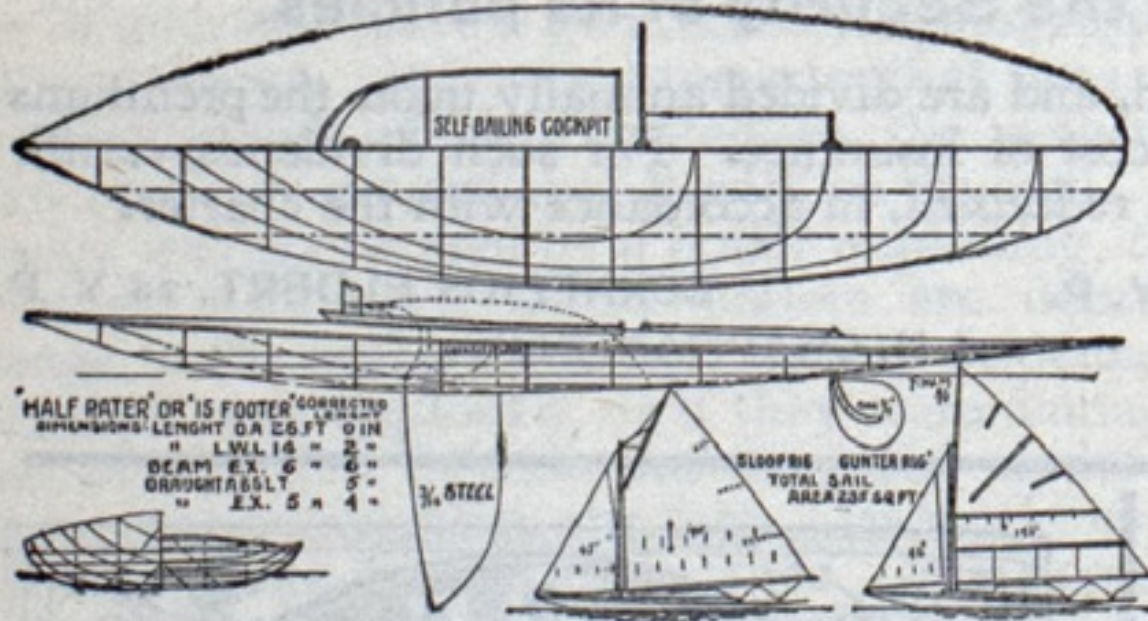
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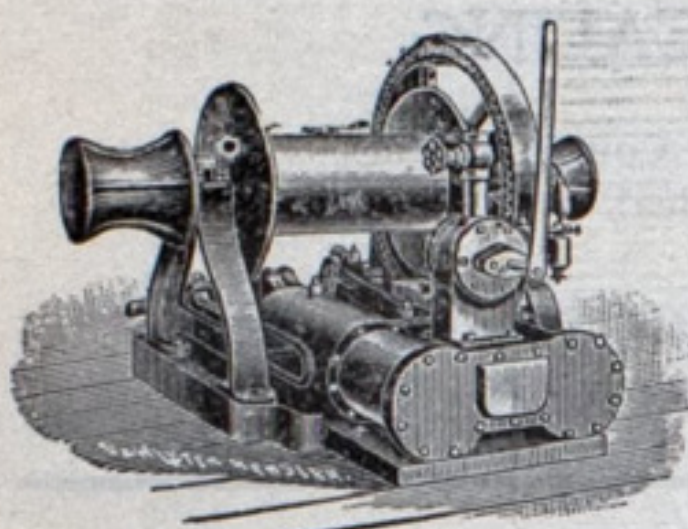
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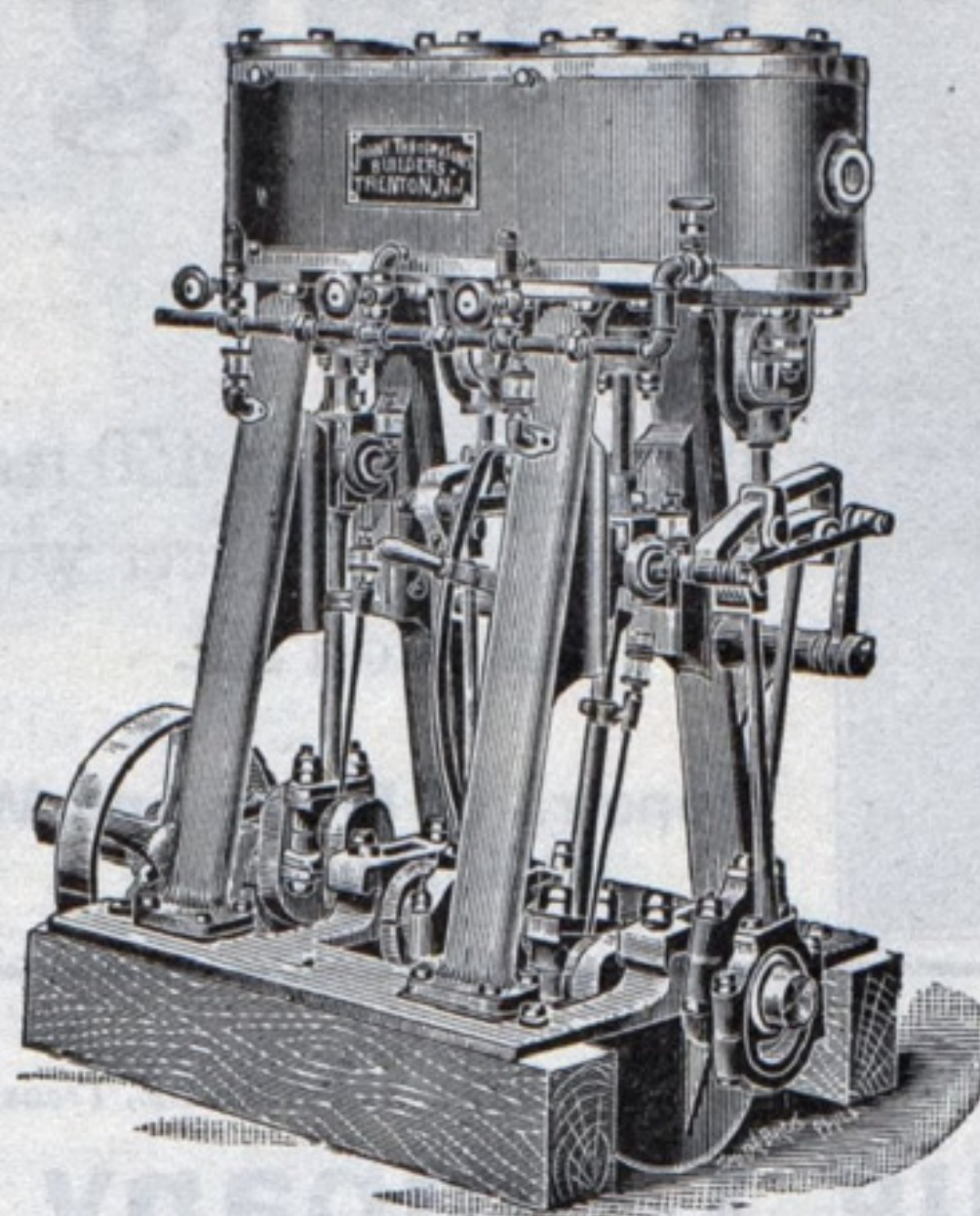
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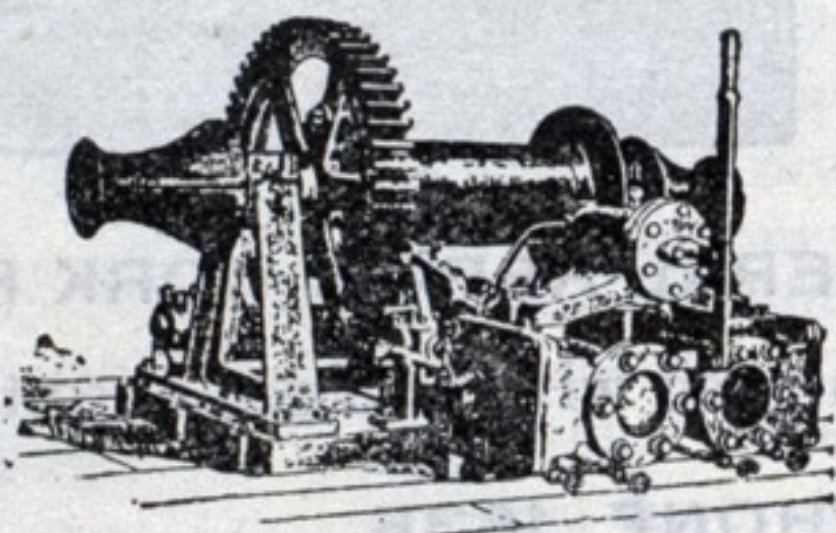
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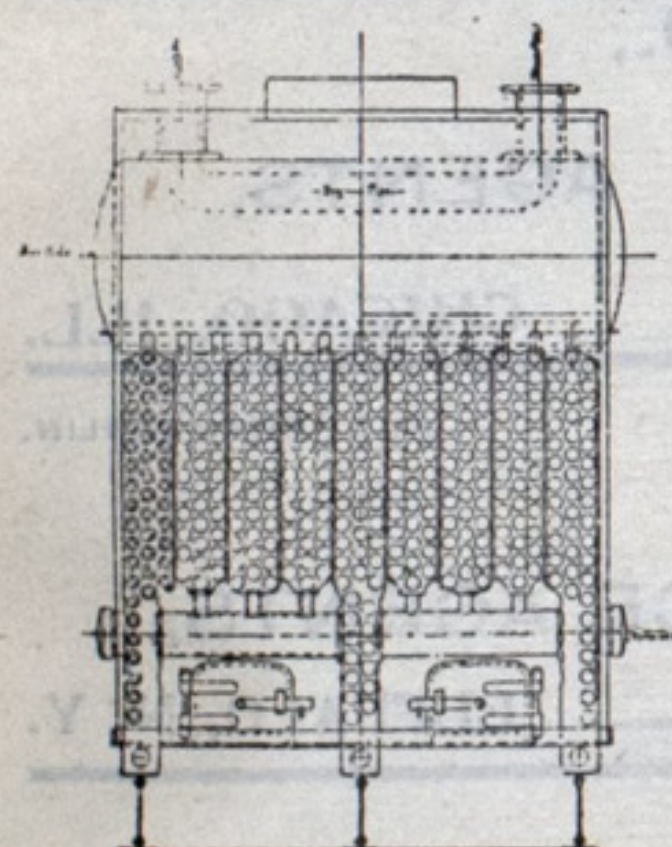
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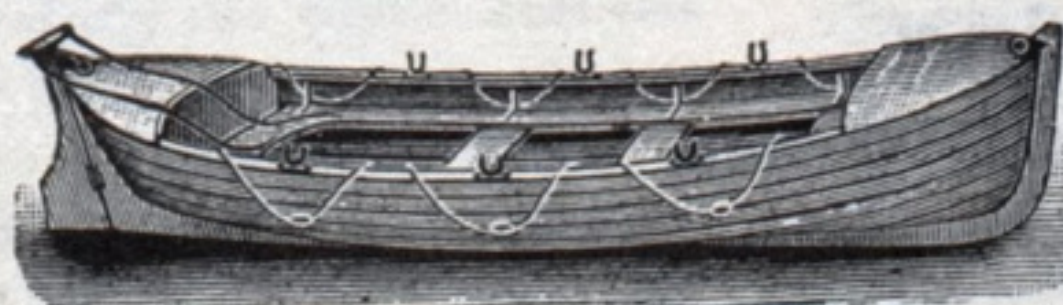
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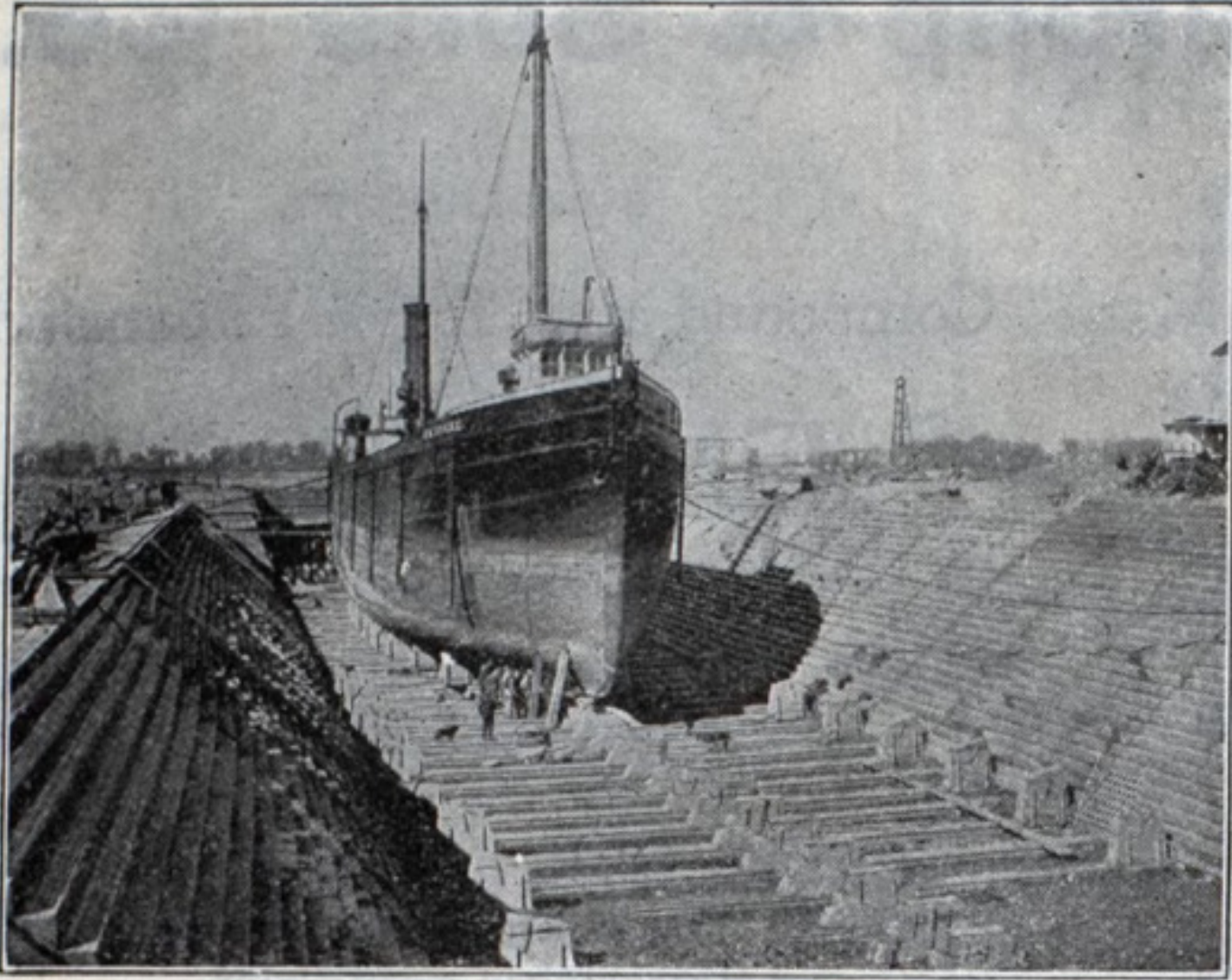
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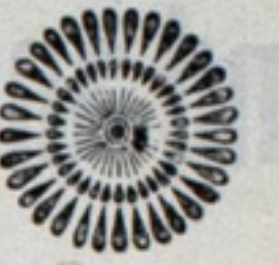
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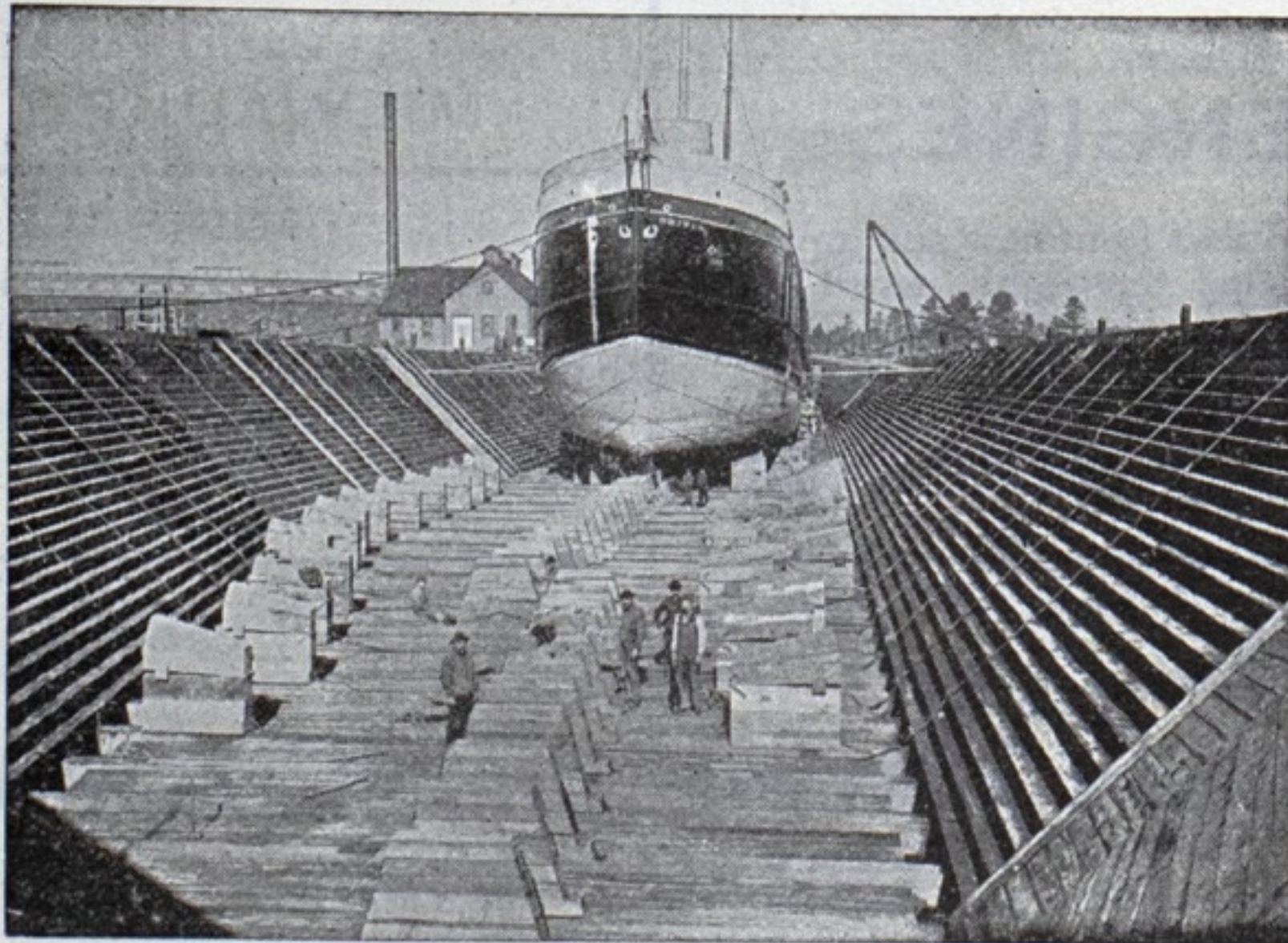
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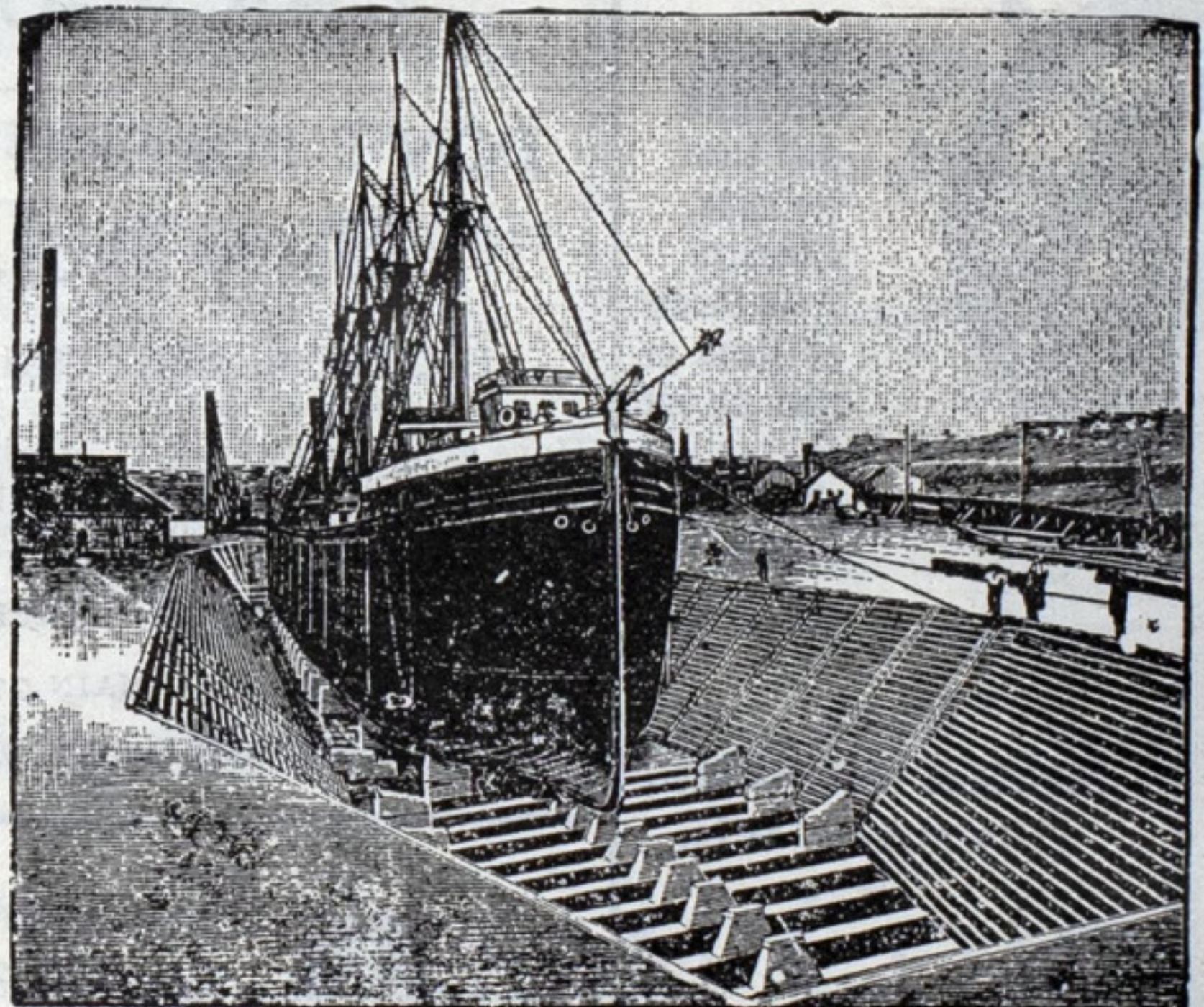
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